

The economics of human relationships^{*}

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1. Introduction

Polanyi (1977) identifies three main forms of integration of economic relationships: centralized redistribution, dispersed exchange on a market base and reciprocity based transactions. Economists' attention has been historically more devoted to market and state than to reciprocity, which, in turn, has been at the center of anthropologists' investigations for a long time. As this volume documents, though, several transactions in modern economies are regulated on a reciprocity base and economists' attention to such issues has been sharply increasing for the last few decades. Reciprocity is not just important besides the market and the state, but, even more, it underlies some relevant transactions within those two other spheres¹. To take just three examples from this volume, Fehr discusses a wide experimental evidence showing the relevance of reciprocity, Rotemberg shows how reciprocity matters for the way how employees react to their employers' decisions, and Bowles *et al.* argue that reciprocity norms are very relevant determinants of both the widespread support for the re-distributive system of the welfare state and of some criticisms to its bad functioning.

In this chapter we are going to focus on the fact that reciprocity entails deep 'relational' aspects, which cannot be entirely captured within a purely individualistic and instrumental approach, and therefore a 'relational' perspective may prove useful. Consider a situation in which I decide to reciprocate another person's action, say a friend's gift. From an individual perspective, I may have both instrumental reasons to do it, for instance because I believe that the other person will reciprocate in turn in

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¹ A convincing example of the contemporary relevance of reciprocity comes from Akerlof's (1982) analysis of efficiency wages as partial gift exchanges. On a similar position is also Blau's (1964) idea of social exchange.

the future and I foresee future benefits from this, and I can have ‘communicative’ reasons, for instance because I am motivated by the desire to establish a reciprocal relation (in this case a friendship) *per se*. In a theory of rational individual action, such ‘communicative’ reasons can be incorporated as an argument of an agent’s objective function. We are going to review a recent literature that takes this direction and introduces ‘relational’ concerns through the concept of ‘socially provided goods’. From a relational perspective, however, individual intentions are not all that matters: a relation is characterized by the two (or more) persons linked and by the kind of link they have. This perspective, which in our view should complement the more traditional, individualistic one, is better suited to discuss the implications of individuals’ social identity (and also of groups’ identity), because it makes it easy to recognize that establishing a certain kind of link (say, reciprocal, but also altruistic) with a certain kind of person (or group) also affects my own identity, at least in its social component, and, as Akerlof (1997) and Akerlof and Kranton (2000) argue, the choice of one’s social identity may be the most relevant economic decision, which then drives all other economic choices. Therefore, after discussing the literature on ‘socially provided goods’, we draw attention to the fact that reciprocity and altruism may be seen as specific social norms, which determine a certain social identity, depending on who adopts them and to whom they are directed. In particular, we emphasize that, while such norms affect traditional economic outcomes in an important way, their evolution is also conditioned by usual economic variables. We illustrate this point by mentioning some contributions on the dynamics of social norms (in particular of altruistic norms). One consequence of this literature is that the dynamics of social norms may lead to a contraposition between a society’s material success and its well-being, i.e., between its ‘vitality’ and its ‘satisfaction’. Finally, we discuss at a higher level of generality the scope, the advantages and the limits of an instrumental perspective on reciprocity, based on methodological individualism, on one side, and, on the other side, of a more ‘relationally oriented’ approach. Our discussion is closely related to the one developed by Bardsley and Sugden in their chapter of this volume and should be seen as complementary to it².

2. ‘Communicative’ aspects of reciprocity and altruism and the concept of ‘socially provided goods’

A systematic investigation of reciprocity in economics dates back at least to Kolm’s (1984) book and Kolm’s chapter in this volume extensively discusses the concept of reciprocity. Its most salient economic feature is perhaps that, unlike market exchange, which occurs at contractually pre-determined prices, reciprocity-based transactions take the form of gifts and counter-gifts (and therefore they are also different from pure altruism, where transfers are uni-directional). As argued by Kolm (1994), reciprocity occupies an intermediate position between self-interest and pure

² They study how the social dimension of human nature has been introduced in economics, first by discussing some ‘fathers’ of modern economic thought, such as Hobbes, Hume, Rousseau and Adam Smith, and then by considering several contemporary approaches to the introduction of sociality into decision and game theory.

altruism, and as noticed by Zamagni (2004), it is characterized by a peculiar relational orientation³.

In a discussion on the birth of modern individualism, Pulcini (2001) focuses on gift giving and argues that its engine is the desire of a link, of a relation. According to her, a gift is neither fully self-interested nor totally altruistic: it starts a game of reciprocity, of material and symbolic exchange which does not take place at pre-determined terms and time, but is rather intrinsically uncertain, expresses trust and recognizes a dimension of non self-sufficiency. In gift giving the other person assumes a special value, since she (or he) gives us back the relational sense of ourselves. A gift is generally driven by both an 'instrumental' concern for the counter-gift and by a non-instrumental intention, corresponding to the desire to shape a relation (and possibly, thereby, one's own identity). The distinction we mentioned above between 'instrumental' and 'communicative' reasons is taken from Habermas' (1981) concepts of 'instrumental action', which just pursues its purposes (and therefore presupposes them, as pertaining to an individual identity), and of 'communicative action', which builds social relations, sense of identity and shared sense of a common world (and therefore, in a way, precedes any instrumental action).

The economic relevance of such 'communicative' aspects is well understood by Akerlof (1997), who recognizes that 'social decisions' affect and are affected by one's social network, are induced and, in turn, determine one's social distance from other individuals and groups, and shape an individual's social identity. It is worth quoting Akerlof at length: "The key difference between social decisions and conventional economic decisions (e.g., the choice of fruits) is that the social decisions have *social* consequences whereas economic decisions do not. [...] All of these activities will affect *who I am* in an important way, and thus how I associate with my friends and relatives, as well as who those friends may be. As a consequence, the impact of my choices on my interactions with other members of my social network may be the primary determinant of my decision, with the ordinary determinants of choice (the direct additions and subtractions from utility due to the choice) of only secondary importance." (1997, p.1006)⁴. In our context, the decision to act reciprocally or altruistically, towards certain individuals or groups and possibly not towards other ones, may be seen a 'social decision' in Akerlof's terms. Bourdieu (1979) in sociology and Akerlof and Kranton (2000) in economics document extensively that, by shaping an individual's social identity, social decisions are a major determinant of his or her future preferences and choices. This means that if we reduce choices of altruism, giving and reciprocity to the maximization of given preferences, we possibly miss some of their most interesting aspects. Of course, depending on the scope of our enquiry, a 'traditional' rational choice perspective on altruism and reciprocity, as can be, for instance, Becker's (1981) analysis of the economics of the family, can be very useful to highlight what we are interested in, but, as Akerlof observes, "a proper theory of social decisions [...] must first spell out their consequences for social exchange." (1997, p.1007).

One of such consequences, indeed the easiest to introduce in a theory of individual action, is that social decisions provide social rewards. The concept of

³ Discussing the economic theory of gift-giving and redistribution, Mercier Ythier points out, in his chapter in this volume, that the distribution of wealth is a 'pure relational good', in the sense that it 'consists of moral relations between individuals', such as 'moral sentiments' and 'individual senses of distributive justice'. We discuss 'relational goods' and their economic implications below.

⁴ Akerlof's paper is not focused on the issues of reciprocity, giving and altruism, but his analysis of social decisions is more general than the scope of his applications.

‘socially provided goods’ is a way of specifying such social incentives to action. The peculiar feature of socially provided goods is that they are not provided by either market or state, but rather by social interaction. Examples of socially provided goods include friendship, social approval, social identification, mates and social status. Evidently, such goods differ from standard commodities, since they directly shape human relationships. A consequence of the fact that they are provided by social interaction is that an individual’s decision to purchase is not sufficient to obtain them, since their enjoyment does not just depend on individual choices, but also on a whole set of characteristics of social interaction, like other people’s behavior, identity and motivation, and the norms, relational networks and opportunities available in the social environment. Therefore, by definition, wide externalities are present in the enjoyment of socially provided goods.

We find it convenient to organize our discussion of the literature on ‘socially provided goods’ by distinguishing two basic motivational orientations towards other people: ‘positional’ and ‘relational’⁵. Essentially, a relational orientation corresponds to the desire to get closer to someone else, whereas a positional orientation corresponds to the desire to gain a better position than other ones on some relative scale. Although both motivations may be seen as oriented to the pursuit of some kind of socially provided goods, it is easy to think of relational orientation as generating altruistic or reciprocal behaviors, and of positional orientation as being rather the source of competitive behaviors. While an interaction based on ‘relationality’, with its components of altruism and reciprocity, generates ‘relational goods’, an interaction based on ‘positionality’, with its prevalence of competitive behaviors, generates ‘positional goods’. We therefore consider here positional interaction as opposed to relational interaction, in order to better understand the differences and thus the implications of reciprocal and altruistic behaviors. Moreover, we shall argue that a relational disposition (and the corresponding behaviors) towards a certain group may be the other side of a positional disposition towards other groups, so that, when we acknowledge that altruism and reciprocity may be selectively directed to certain relations and not to other ones, an analysis of social and economic cleavages becomes directly relevant to the issue. While a deep account of the implications of such cleavages would lead us too far, we shall mention a few contributions in which they clearly emerge. Our analysis of relational and positional interaction, which is meant to be illustrative of how the concept of ‘socially provided goods’ may capture the social incentives that lie behind some forms of altruism and reciprocity, will be focused on their implications for some labor market issues, for growth and for well-being, with a particular attention to social participation, to social capital and to their dynamics.

3. The positional side of economic interaction

As mentioned above, the positional orientation corresponds to the desire to gain a higher relative position along some scale, that is to say, to reduce the distance from those who are above and to increase the distance from those who are below. As

⁵ A third basic orientation, which can be called ‘neutral’, corresponds to the case in which individuals are self-concerned and do not care about others. Since this is the typical assumption in standard economic models, in which individuals care only about own consumption, we do not insist on it. Although the classification of social motivations in terms of positional, neutral and relational is not exhaustive, it offers a framework at the same time articulated and simple.

pointed out by Hirsch (1976), competition for relative position is a zero sum game, since to somebody's relative gain corresponds exactly somebody else's relative loss. Therefore, resources invested in this sort of competition are, from the aggregate point of view, a waste that gives rise to an inefficient 'rat-race'.

Social status is the typical example of a positional, socially provided good. The questions of what are the mechanisms according to which social status is attributed and what kind of economic behavior is stimulated by such pursuit have been tackled quite in detail in the recent economic debate. We focus here on two issues analyzed by this literature: the implications of social status concern for labor issues (in particular for labor supply and job satisfaction) and for economic growth.

Positional competition and labor issues

The desire of a positional advancement may be satisfied in various ways, according to the scale on which one evaluates relative position. Some economically relevant examples of such scales are the distributions of wealth, of income and of human capital. For instance, if relative income is an important social ranking device, the effect of positional competition may be an incentive to work inefficiently too much. Corneo (2002) considers this possibility and draws the policy implication that progressive income taxation may have an efficient side, to the extent that it corrects the over-work distortion and reduces the 'rat-race'.

Neumark and Postlewaite (1998) conduct an empirical study on the relationship between comparison income (i.e., income of a certain reference group) and women's choice whether to work or not. They show that, in taking such decision, women tend to compare their own family income with their relatives' family income: they choose to work if this is necessary to keep a good ranking of their own household in their reference group. This mechanism gives rise to potential chain effects, which are also in very good accordance with empirical findings.

Clark and Oswald (1996) provide an empirical estimation of the relevance of comparison income for job satisfaction. Using UK data for 1991, they find three main results: first, "workers' reported level(s) of satisfaction are at best weakly correlated with absolute income alone"; second, "measures of comparison income are significantly negatively correlated with reported levels of happiness at work"; third, "the higher the level of education, the lower the reported satisfaction level". This last result is explained with the idea that higher education brings about higher aspirations, which are more difficult to be met satisfactorily⁶. The comparison income is specified empirically as "the income of 'typical' employees of given characteristics", as predicted by a standard Mincerian wage regression. The coefficient of this measure in a job satisfaction regression is negative, significant and both higher in absolute value and more significant than that of individual income; moreover, a Chi-square test does not reject the null hypothesis that these two coefficients are equal, thus supporting a pure relative income effect. The same result is confirmed also using different

⁶ Aspirations seem to play a crucial role in determining satisfaction, as argued, among others, by Sacco and Vanin (2000) in a simulation model of network interaction. Clark (1997) explains the empirical finding that women report on average a higher job satisfaction than men with the consideration that, mainly because of historical reasons, they have been used to having worse positions and therefore they have on average lower aspirations, which are more easily satisfied. If this explanation is correct, it means that the gender differential in satisfaction is just temporary and will disappear as soon as women's aspirations are adapted and revised upwards.

empirical proxies for comparison income. Analogous results are found by Hamermesh (1977), Lévy-Garboua and Montmarquette (1994) and Sloane and Williams (1994), using American, Canadian and British data, respectively.

Positional competition and growth

Many economists are reluctant to introduce social status into agents' objective functions, because they fear that this might lead to *ad hoc* explanations without explanatory power. One clever way out of such fears, clearly spelled out by Cole *et al.* (1992) and often adopted in the literature on status seeking, is to recognize that markets are incomplete, so that some private goods are not allocated through the market, but rather through social interaction according to individual social status. Social status is thus interpreted by the authors "as a ranking device that determines how well an agent fares with respect to the allocation of non-market goods", and concern for social status is not exogenously postulated, but rather endogenously generated by private concern for non-market goods (indeed, socially provided goods). They focus on the case in which social status is attributed according to relative wealth: the wealthier you are, the higher your social status and thus the better you are able to enjoy private non-market goods. In their model, differences in social organization, i.e., in the allocation mechanism of non-market goods according to social status, induce different preferences for relative position, and since this depends on wealth, indirectly they induce different preferences for wealth accumulation, and therefore may lead otherwise identical economies to grow at different rates.

An alternative formulation, pursued by Fershtman *et al.* (1996), considers status attributed according to relative human capital rather than to relative wealth: the higher your rank in human capital, the more you deserve and may receive social esteem. When human capital is not directly observable, they argue that it may be inferred from an individual's occupational group, and thus they focus on the consequences of status seeking for talent allocation in society. They find in particular that wealthy individuals with low ability may be induced to acquire human capital to gain higher status, thus driving poorer high ability individuals out of the more productive sectors. Consequently, growth might be enhanced by a more egalitarian distribution of wealth, which would reduce the demand for status.

The link between social status, attributed according to relative wealth, and long-run growth is studied in a model *à la* Solow (1956) by Corneo and Jeanne (2001), who show that concern for social status may generate endogenous growth. While in endogenous growth theory *à la* Romer (1986) growth is the result of positive externalities, and thus may be sub-optimally low, an improvement of an individual's relative position imposes a negative externality on others, so that growth resulting from status competition may be sub-optimally high.

The idea that positional competition takes place through a concern for wealth rank is investigated by Corneo and Jeanne (1999a) in a scenario of complete information on wealth distribution and by Corneo and Jeanne (1999b) in one of incomplete information. The first paper shows that, when wealth is perfectly observable, status competition creates an incentive to accumulate wealth and thus fosters growth; moreover, when there is a strong social segmentation, positional competition takes mainly place within each segmented social sphere, since within each of them wealth is more uniformly distributed and thus wealth ranking can be changed more easily through individual effort: under strong segmentation there is a

higher incentive to engage in positional competition and therefore there are higher growth rates.

When wealth is imperfectly observable, Corneo and Jeanne (1999b) argue that social status may be attributed on the base of noisy signals, which generate the phenomenon called by Veblen ‘pecuniary emulation’: lower class people try to over-accumulate in order to be taken for upper class people, whereas upper class people over-accumulate to keep the wealth difference clear and visible. Both too much equality in the distribution of wealth and too much inequality destroy the signaling power of wealth and thus the incentive to accumulate it to gain status. The highest level of pecuniary emulation, and therefore the highest growth rates, correspond to intermediate levels of initial wealth inequality.

While Corneo and Jeanne (1999b) consider noisy signals on wealth in a rather abstract way, two previous contributions by the same authors specify such signals in terms of conspicuous consumption, i.e., consumption of luxury and visible (not necessarily useful) goods. Corneo and Jeanne (1997) derive some unconventional policy implications, related to the fact that the signaling power of conspicuous consumption may be increasing in price, so to generate an upward-sloping demand curve. This means that taxing this kind of goods might increase their demand rather than decreasing it, so that other policy instruments are needed to disincentive this channel of positional competition. Corneo and Jeanne (1998) argue that, while in a static framework conspicuous consumption for status reasons amounts to a reduction of savings, this effect may be reversed in a dynamic framework, if individuals accumulate when young and engage in conspicuous consumption and status competition when old.

One of the interesting aspects of this approach to social status is that it starts with the broad consideration that socially provided goods are not allocated through the market, but rather through social interaction. The next move is to spell such interaction as a competitive game, in which social status is mainly a way to win the competition. The archetype of such interaction, often considered in this literature, is therefore the competition for an individual’s mate. Though, it may be observed that not all socially provided goods are allocated through competitive interactions, since participatory dynamics plays a relevant role as well. This leads us to consider a participatory, relational orientation, besides a competitive, positional one.

4. The relational side of economic interaction

The relational orientation corresponds to the desire to increase one’s proximity to other people, for instance through friendship, sympathy, sharing of ends, of norms, of group belonging and, at the limit, of life. It is clear that, although we can think of ‘positionality’ as a desire to go ‘above’ others and of ‘relationality’ as a desire to come ‘closer’ to others, these two motivational orientations are not opposed to one another in a trivial way. For instance, the desire to share life with a certain mate may generate the need to win the social competition to get that mate, and a relational orientation towards the members of the upper class may just be the flip side of a general positional orientation. In other words, both positional competition and relational attitudes may be either pursued *per se* or instrumentally: a good position may serve to gain desired relations and certain relations may serve to gain a higher position. Though, we focus on the ‘pure’ forms of these two orientations, since an instrumental perspective on either of them already presupposes a clarification of the

other one, which constitutes its purpose. In its pure form, ‘relationality’ reflects a participatory logic, which prompts to solidarity towards other people and fosters identification with them. Since identification with other people is a basic source of altruism towards them, or at least of benevolence, and since norms of solidarity and reciprocity often go together, those environments where a participatory, ‘relational’ logic may develop are natural sources of reciprocal and pro-social behaviors.

The link between ‘relationality’ and participation is well understood by Uhlaner (1989), who introduces in the economic literature the notion of ‘relational goods’. She argues that traditional rational choice models cannot explain why people are willing to undertake costly actions such as political participation and voting, despite their awareness that the actual influence of their participation or of their vote is indeed negligible in terms of final outcome. On the contrary, such behaviors can be understood as rational once we consider that people are enjoying a relational good. According to her definition, relational goods are a particular type of local public goods, which can only be produced and consumed through the joint action of several individuals, whose identities become relevant. Two peculiar aspects of relational goods are that they cannot be enjoyed alone and that it is mostly very difficult to separate their ‘production’ from their ‘consumption’, since they easily coincide⁷. Indeed, not only ‘consumers’ and ‘producers’ are the same agents, but social participation ‘produces’ relational goods at the same time that it puts participants in the condition to ‘consume’, i.e. enjoy, them⁸. Examples of how social interaction may generate relational goods range from going out with friends to participating to a choir, a football club, a voluntary organization, and so on.

The aspect of joint production, and the fact that they present both private good and public good characteristics, makes relational goods a special case of Cornes and Sandler’s (1984) joint production model, of which Andreoni’s (1990) theory of ‘warm-glow giving’ is also a special case⁹. One implication of Cornes and Sandler’s mixed private-public good approach is that there is the possibility of crowding in and of multiple equilibria, in the sense that, if everybody else contributes much to the joint production, this may raise my private returns from contribution and therefore lead me to contribute much myself, but if other people’s contribution is low, I may have no incentive to contribute much. When Uhlaner emphasizes that, in the case of relational goods, an increase in the number of participants may increase individual utility, she is indeed applying this general result to the case in which the joint production is that of relational goods and individual contributions take mainly the form of some kind of social participation. As we shall see, this aspect opens the possibility that, due to coordination failure, social participation is inefficiently low (or inefficiently high) and a society gets stuck in a Pareto-dominated equilibrium, which, in the case of inefficiently low social participation, may be called a ‘social poverty trap’.

Another closely related concept, often used in development economics, is that of ‘productive consumption’ (for instance, expenditure in food, health and education are consumption activities that raise individual productivity). A consequence of productive consumption is that, contrary to what we are used to think, a higher consumption level may increase production, accumulation and growth, whereas

⁷ The fact that in post-fordist economies production and consumption converge to some extent is observed, among others, by Zamagni and Bruni (2004), Donati (1991) and De Vincenti and Montebugnoli (1997).

⁸ Gui (2000) emphasizes affective and communicative aspects of relational goods.

⁹ Interestingly, Cornes and Sandler already noticed that their theory might be applied to the economics of philanthropy.

higher savings may result ineffective, as shown, for instance, by Steger (2002). We shall see later that similar surprising results apply to the effects of social participation, but, while Steger considers the effects of joint production on human capital accumulation, social participation may be seen as one of the major forces of social capital accumulation¹⁰.

A further interesting aspect about relational goods, which also distinguishes them from other kinds of joint production or of productive consumption, is that the identity of the people involved matters. As noticed above, Akerlof and Kranton (2000) emphasize the relevance of identity (a person's sense of self, associated to certain behavioral patterns) for a variety of economic outcomes¹¹, and Akerlof (1997) notices that, as far as social decisions are concerned, the main determinant of my choice may be the impact I imagine it will have on the network of my relations with others. What is relevant here is whom I interact with and what is the 'social distance' between us (a special case of which is economic inequality). Again, we shall see later that the literature on social capital emphasizes both the theoretical and the empirical relevance of social and economic cleavages for social participation and social capital accumulation.

A common objection to the economic consideration of relational goods is that they would not be economic goods. Such objection takes two main forms. According to the first one, they should not be regarded as economic 'goods', since, while standard consumption goods exist and may be objectively defined before and independently of individual actions concerning them, relational goods come to exist only through social interaction. This distinction is indeed correct; though, its only consequence should be that relational goods are a class of economic goods different from private consumption goods¹², unless one objects at the same time that relational goods are not 'economic' goods, a much less easily endorsable claim.

This second criticism starts from the conceptualization of 'economic' goods as 'scarce' goods and argues that relational goods are not scarce. Though, besides other possible inputs, enjoyment of relational goods requires participation to some social activities, which are typically time-intensive. Since time is a scarce resource, as already argued by Becker (1965), and since an increased pressure on it may lead to a substitution of time-intensive activities for time-saving ones, relational goods can be considered scarce goods on their own right, and the more so, the higher the pressure on time in a society: in other words, they are scarcer in advanced economies than in less developed ones.

As we did above for positionality issues, we focus again on two specific aspects of the literature on relational orientation: labor issues (in particular, labor supply, productivity and satisfaction) and economic growth (with a special focus on the dynamics of social capital accumulation and on well-being).

¹⁰ Narayan (1999) provides the following general definition: "Social capital is defined as the norms and social relations embedded in the social structures of societies that enable people to coordinate action to achieve desired goals".

¹¹ They argue that "choice of identity may be the most important 'economic' decision people make. Individuals may—more or less consciously—choose who they want to be. Limits on this choice may also be the most important determinant of an individual's economic well-being".

¹² We do not discuss here the difference from standard public goods, since it is not of particular relevance. Generally speaking, relational goods may be regarded as an intermediate case between private and public goods.

Relational orientation and labor issues¹³

Relational goods may be produced through interaction in any sphere of social life, like family, peer groups, associations and workplace. In each of them, relational and positional attitudes usually appear mixed to some degree, but their relative weight is different in different spheres. As far as relations at workplace are concerned, Rotemberg (1994) studies whether and how firms may benefit from promoting a relational orientation among workers¹⁴. He argues that workers' solidarity may lead them, depending on the specific situation, either to work harder or to exert a lower effort. This explains why empirical results on the connection between cohesiveness of the working environment and labor productivity are generally mixed.

In a similar vein are also previous contributions by Holmström and Milgrom (1990) and by Lazear and Rosen (1981), who show that in some circumstances competition (and in particular positional competition) can lead workers to increase effort, whereas the possibility of 'collusion' would reduce labor productivity. In other circumstances, though, and especially when workers are not remunerated on an individual basis but rather on the basis of team performance, a relational orientation among group members would increase productivity, whereas a competitive orientation would easily generate social dilemma situations.

Sugden (1993) sheds further light on this argument, showing that, if individuals interpret themselves as members of a team rather than as competitors, the typical inefficiency of social dilemma situations may be avoided¹⁵. Rose (2002) argues, moreover, that payment on the basis of individual marginal productivity may be impossible when team synergies arise, so that remuneration on the basis of team performance may become necessary, whereas Holmstrom (1982) shows that internal competition in teams is worthless per se, and that its only rationale may be the optimal extraction of information about agent characteristics.

Rob and Zemsky (2002) consider that, although workers are not usually directly rewarded for cooperation, they could cooperate because they derive direct utility from doing it, in an amount that depends on firm specific social capital and on firm's direct incentives to cooperation. In this case, a firm might be interested in building social capital among its workers, a concept that we discuss in the next section and that, in the context of Rob and Zemsky, may be interpreted in cultural terms as a norm that prompts cooperation and associates a psychological cost to defection. The degree to which such a norm is effective, they argue, basically depends on the history of past cooperation among workers.

Rob and Zemsky's (2002) contribution captures two phenomena of broad relevance. The first one is the interplay between the psychological incentives provided by relational goods and the material incentives provided by the firm in form of remuneration¹⁶. The fact that this interplay does not work in an obvious way is highlighted by Frey's (1997) seminal work and by Gneezy and Rustichini (2000), who show through a field experiment that material incentives may crowd out intrinsic psychological incentives, because they change the way people frame a situation and

¹³ For more on this topic see Rotemberg's chapter in this volume.

¹⁴ In particular, he focuses on feelings of altruism among workers and treats them as a choice variable: individuals choose to be altruistic if it is in their own interest.

¹⁵ Bardsley and Sugden's chapter in this volume provides a more detailed analysis of team-thinking.

¹⁶ The idea that some interplay of this kind may be relevant goes back, in the economic debate, at least to Akerlof's (1982) consideration that labor contracts may be seen as partial gift exchanges.

therefore the kind of norm they see as adequate. Therefore, in order to be effective, material incentives have to be strong enough to compensate the psychological incentives crowded out by their introduction. Prendergast (1999) and Frey and Jegen (2001) offer exhaustive reviews of the economic literature on the crowding-out effects of material incentives; whereas Deci, Koestner, and Ryan (1999) discuss the empirical evidence accumulated by social psychology on the crowding-out effects of economic incentives on intrinsic motivation.

The second phenomenon is that there is a two sided relationship between social capital accumulation and enjoyment of relational goods: on one side, a higher social capital increases returns to cooperation (in terms of relational goods) and therefore fosters it; on the other side, cooperation and enjoyment of relational goods contribute to reinforce cooperative norms and habits, and therefore foster social capital accumulation.

We may summarize the main conclusions of this literature in the following way: while the relationship between relational orientation and productivity is not univocal, but rather depends on the specific context, the contribution of relational orientation to job satisfaction is generally positive. Moreover, it is not subject to the social constraint faced by positional competition, namely, that of being a zero-sum game. Therefore, at least from a static point of view, relational orientation entails a higher potential for aggregate well-being than positional competition. Though, the ambiguity of its impact on productivity raises interesting questions about its dynamic consequences. For instance, one may wonder whether, under certain conditions, a widespread relational orientation may be statically beneficial for well-being but harmful in dynamic terms, or even just statically harmful for well-being, due to the latter effect. To understand such questions more deeply, let us now turn to the analysis of the connection between relational orientation and growth.

Relational orientation and economic growth

Endogenous growth theory puts a special emphasis on human capital, technology and positive externalities¹⁷, but at least in its standard versions it tends to disregard social issues. However, the literature on social capital, developed in the last fifteen years, has started to fill in the gap¹⁸. As Putnam (2000) observes, “The touchstone of social capital is the principle of generalized reciprocity – I’ll do this for you now, without expecting anything immediately in return and perhaps without even knowing you, confident that down the road you or someone else will return the favor.”¹⁹ (p.134). The basic reason why “a society that relies on generalized reciprocity is more efficient than a distrustful society” (p.135) is that it saves on considerable transaction costs. Of course, trusting others is efficient only if they are trustworthy: “*Generalized reciprocity is a community asset, but generalized gullibility*

¹⁷ See, e.g., Romer (1986), Lucas (1988), Barro and Sala-i-Martin (1995) and Aghion and Howitt (1998).

¹⁸ This literature is by now too wide to review it exhaustively here. Coleman (1988 and 1990) and Putnam (1993) are seminal contributions. The World Bank (2004) has an excellent electronic library on social capital.

¹⁹ Putnam provides a number of examples of behaviors inspired to generalized reciprocity: “raking your leaves before they blow onto your neighbor’s yard, lending a dime to a stranger for a parking meter, buying a round of drinks the week you earn overtime, keeping an eye on a friend’s house, taking turns bringing snacks to Sunday school, caring for the child of the crack-head one flight down” (p.134).

is not. Trustworthiness, not simply trust, is the key ingredient” (p.136). Indeed, the literature on social capital has proposed a number of theoretical definitions, but most of them focus either on trust and norms of civic behavior or on networks of horizontal organizations, and again Putnam observes that “An effective norm of generalized reciprocity is bolstered by dense networks of social exchange.” (p.136).

Knack and Keefer (1997) examine various specifications of the concept of social capital, namely in terms of trust, civic norms and associational activity, and assess their impact on growth on the basis of data from the World Values Survey for 29 market economies between 1981 and 1991. As a proxy for trust (TRUST) they take for each nation the percentage of respondents that most people can be trusted (after deleting the “don’t know” answers) to the following question: “Generally speaking, would you say that most people can be trusted, or that you can’t be too careful in dealing with people?”²⁰. To capture the strength of norms of civic cooperation, they construct a variable (CIVIC) on the basis of the answers to various questions about how individuals evaluate some anti-civic behaviors. These two variables are highly positively correlated and both of them are designed to capture generalized trust and cooperative attitudes, rather than social capital at the level of a specific group. Therefore, we can consider them as indicators of society-wide relational orientation. Knack and Keefer’s first main finding is that “trust and civic cooperation are associated with stronger economic performance”. In particular, they find that one standard deviation change in TRUST is associated with a change in growth of more than half of a standard deviation. This result seems to be quite robust.

The second question they address concerns the effects of associational activities. Theoretically, such effects are ambiguous. Olson (1982) emphasizes that the purpose of some groups is to exert a distributive pressure, i.e. to seek rents, and that active participation to such groups indeed increases the level of distributive struggle in society and decreases social capital. In contrast, Putnam (1993) considers participation in associational networks as the main component of social capital, since it creates the civic engagement that improves both government and economic performance. As a proxy for the density of horizontal networks in a society (GROUPS), Knack and Keefer consider the average number of groups cited per respondent when faced with the question of whether they belong to any of a list of groups of ten kinds. Their second main result is that “associational activity is not correlated with economic performance – contrary to Putnam’s (1993) findings across Italian regions”. They also split the data to identify the possibly contrasting effects of ‘Putnamesque’ and ‘Olsonian’ groups, i.e., of groups that “involve interactions that can build trust and cooperative habits” and of groups with redistributive goals, respectively. The results are contrary to what the theory predicts, but, by admission of the authors, they should be regarded as only preliminary. Their relevance, rather than substantial, is methodological.

Zak and Knack (2001) perform a similar analysis, using the same variable for trust, but with more data. In particular, while Knack and Keefer’s investigation concerns 29 OECD countries, Zak and Knack add to the sample 12 additional countries. The effect of the larger sample is basically that it reinforces the statistical impact of trust on investments and growth. Moreover, they investigate the impact of

²⁰ The variable TRUST exhibits a high cross-country variance and high serial autocorrelation within each country. Glaeser et al. (2000) use two experiments and a survey to address the question of what exactly TRUST measures and argue that it captures trustworthiness better than trust.

formal institutions and social homogeneity, finding that they “increase growth in part by building trust”.

Taken together, this evidence consistently shows that social capital, especially in the form captured by the variable TRUST, has a relevant impact on growth²¹. This raises the question of how social capital is accumulated. Knack and Keefer (1997) find for instance that “trust and norms of civic cooperation are stronger in countries with formal institutions that effectively protect property and contract rights, and in countries that are less polarized along lines of class or ethnicity”.

That measures of social capital tend to be positively correlated with property and contract rights protection may appear surprising, since trust and contracts are generally seen as substitutes. Putnam (2000) confirms this result, when he shows that U.S. investment in the legal system (as captured by employment and expenditure measures in police, guards, watchmen, lawyers and judges) remained fairly low for most of the twentieth century, while all measures of social capital were increasing, and started to increase sharply in 1970, in correspondence with the beginning of a marked and prolonged decline in social capital. Nevertheless, one should distinguish between institutional quality, as measured by the extent to which property and contracts are protected in a given institutional setup, and the actual investment of resources in contract enforcement. While trust, saving on transaction costs, is indeed a substitute for the resources invested in contract enforcement, institutional quality provides an environment in which individuals have a further incentive to behave in a trustworthy manner, and it can thus stimulate trust.

The negative impact of class and ethnical polarization on social capital is confirmed by Glaeser *et al.* (2000), who find that a smaller social distance among people, for instance due to joint group membership or the same ‘race’ or nationality, increases both trust and trustworthiness; moreover, a person’s higher status induces others to behave in a more trustworthy manner toward him or her²².

Alesina and La Ferrara (2002) consider both personal experiences and community characteristics as possible determinants of individual trust. Using data from the General Social Survey for the United States from 1974 to 1994, they find that the major causes of low trust are recent traumatic experiences, belonging to a discriminated group, low income, low education, living in a society with strong ‘racial’ cleavages or in one with high income inequality. Religious beliefs and ethnic origins, in contrast, are found not to affect trust significantly.

Results for social participation are quite similar. Alesina and La Ferrara (2000) study participation in associational activities like religious groups, sport groups, hobby clubs, unions, and so on (they consider participation in a list of 16 different kinds of groups). They analyze data for metropolitan areas in the U.S. from 1974 to 1994, mainly from the General Social Survey, and find the following key results: social participation is higher where income inequality, ‘racial’ segmentation and ethnic segmentation are lower. This happens in the North/Northwest of the U.S., the opposite features appearing in the South/Southeast. Moreover, looking at participation in different kinds of groups, the authors find that heterogeneity matters less for participation in groups with a relatively high degree of excludability or a low degree of close interaction among members. Finally, they find that, as it could be expected, ‘racial’ segmentation matters more for individuals more averse to ‘racial’ mixing.

²¹ Another relevant empirical contribution, although a bit harder to interpret, is due to Temple and Johnson (1998), who show that a measure of social capability is a good predictor of long-run growth.

²² This is one of the ways in which positional and relational issues are linked together.

Helliwell and Putnam (1999) investigate whether and how education determines social capital, specified both in terms of trust and of social participation. They start with the observation that, although average educational levels have risen sharply in the United States in the last half century, the same did not happen to political and social participation. This is somehow puzzling, because individual education is widely acknowledged to be the best predictor of many forms of political and social engagement. Using data from the US General Social Survey from 1972 to 1996 and from the DDB-Needham Life Style surveys from 1975 to 1997, they assess that higher average education increases trust and does not reduce participation. A strong positive correlation between education and social participation is also found by Costa and Kahn (2001). Since such results are based on U.S. data, one should be careful in extending them. For instance, trust appears to be high in some countries with low formal education, but this may be due to a variety of reasons, which are still largely to be explored. One might speculate, for instance, that in some less developed countries the lower educational level is compensated by a higher reliance of the economy on the reciprocity-based transactions rather than on private markets, but this is just a conjecture.

The broad message of this literature is that trust, generalized reciprocity, social participation and relational orientation develop more easily where heterogeneity and social distance among individuals are low, that is to say, in relatively homogeneous groups or societies. Moreover, institutional quality and educational levels also tend to exert a positive impact on social capital²³.

The case of private growth and social impoverishment

These considerations constitute the theoretical background of Antoci, Sacco and Vanin's (2001, 2002 and 2004) investigation of the dynamics of social capital accumulation in a homogeneous society. They develop two 'neoclassical' models and an evolutionary model, to investigate to what extent such dynamics is related to economic growth and what is the overall impact of different possible development paths in terms of well-being. The basic setup of their models starts from the recognition that individual well-being depends on satisfaction of both material and relational needs, the first ones mainly addressed through private activities, whose outcome are private goods that enter in the GDP, the second ones mainly through social activities. Such activities yield relational goods, which do not enter in the GDP, to an amount that depends on own and average social participation, as well as on social capital. Besides yielding relational goods, social participation has a positive external effect on social capital accumulation. Individual choices of time allocation between private and social activities may therefore affect at the same time GDP growth and social capital accumulation.

In formal terms, their basic model (2002) considers a continuous population, whose individuals (denoted by subscript $\tau \in [0, 1]$) choose how to allocate their time among social activities (a share s of the entire population), private activities that yield a private 'subsistence' good C (a share l), and private activities that yield a private

²³ Many of the quoted studies adopt an instrumental variables approach to tackle reverse causality issues.

good C_s (a share l_s), which is a perfect substitute of the relational good B , in order to maximize their lifetime stream of discounted utility:

$$\max_{s_\tau(t), l_\tau(t), l_{s\tau}(t)} \int_0^\infty u_\tau(t) e^{-r_\tau t} dt,$$

where t denotes time, r_τ is the individual intertemporal discount rate and $u_\tau(t)$ represents instantaneous individual preferences, which, omitting t and τ for notational simplicity, are given by

$$u = U(C, B, C_s) = \ln(C) + b \ln(B + aC_s),$$

where a is the MRS between C_s and B , and b is a strictly positive parameter (equal to 1 in the evolutionary model). It is assumed that the only production factor of private goods is individual labor²⁴, whereas the relational good B is produced by own social participation s , aggregate (or average) social participation $\bar{s} = \int_0^1 s_\tau d\tau$ and social capital K_s , according to the function

$$B = G(s, \bar{s}, K_s) = \sigma s^\gamma \bar{s}^\delta K_s^\varepsilon,$$

where $\sigma, \gamma, \delta, \varepsilon > 0$ are parameters. Here production and consumption of B are not distinguished.

Besides production technology and the constraints $s_\tau(t), l_\tau(t), l_{s\tau}(t) \geq 0$ and $s_\tau(t) + l_{s\tau}(t) + l_\tau(t) = 1$, individuals have to take into account the dynamics of social capital accumulation. It is assumed that social capital accumulates as social participation brings about relational goods²⁵:

$$dK_s(t)/dt = \bar{B} - \eta K_s(t),$$

where $\bar{B} = \int_0^1 B_\tau(t) d\tau$ and η is social capital depreciation rate (relations die out if not taken care of). This means that social capital is treated as an accumulated externality. Assuming a homogeneous population (identical individuals), at a symmetric Nash equilibrium the representative individual's instantaneous choice of s depends on K_s . The resulting dynamics of K_s depends on the parameters. The main result is that there exist social poverty traps, i.e., Pareto-dominated fixed points. Along the convergence path to such equilibria the economy may experience at the same time private expansion and social impoverishment. When a social poverty trap exists, its attraction basin depends on the initial level of K_s : economies which are identical in the fundamentals, but differ in their initial stock of social capital, may follow different paths of growth, social development and time allocation between the private and the social sphere.

This basic setup is extended in two ways. First, the (2004) model introduces, besides social capital K_s , individual private capital K_τ , which, omitting τ , is accumulated according to

$$dK(t)/dt = Y(t) - C(t) - C_s(t) - \xi K(t),$$

²⁴ It is not true that work is just a private activity, but it is both theoretically and empirically legitimate to assume that it has a primarily private orientation. Alesina and La Ferrara (2000a) argue that, "after controlling for the level of income, the effect of time spent at work could be twofold. On the one hand, a constraint on time may decrease participation; on the other hand, socialization in the workplace may increase social interaction, incentives and ability to participate." Empirically, they find that full-time workers participate more than people out of the labor force, but less than part-time workers: both effects are present, but among working people there is a negative relation between the time spent in social participation and in private production. Corneo's (2001) empirical finding, discussed below, of a positive correlation across countries between the time devoted to watch television and to work is also illuminating.

²⁵ This is coherent with Rob and Zemsky's (2002) argument about firm-specific social capital, but is applied to society-wide social capital.

where ξ is private capital depreciation rate and $Y(t)$ is an individual's total private production, which, omitting t , is given by

$$Y = A (I-s)^\varphi K^{1-\varphi},$$

where φ is a parameter and $A = (I-\bar{s})^\chi K^\psi$ captures possible externalities (χ and ψ are parameters). Even in this setting, where one may expect that private growth is strong enough to more than compensate the negative effects of social impoverishment, still social poverty traps are possible, as well as the simultaneous experience of private growth and social impoverishment along the convergence path. The attraction basin depends now, among other things, on the initial endowment of social capital relative to the representative individual's initial private capital.

The (2001) model investigates the same idea in an evolutionary framework. For simplicity, individuals may only choose between two pure strategies: a relational one, in which they produce and consume only C and B , and a private one, in which they spend more time in private activities, in order to produce and consume also C_s . It is assumed that the fraction x of the population that follows the relational strategy evolves according to the 'replicator dynamics':

$$dx/dt = x [U_R(K_s, x) - \bar{U}(K_s, x)],$$

where $\bar{U}(K_s, x) = U_R(K_s, x) x + U_P(K_s, x) (1-x)$ is the average payoff and U_R and U_P are the payoffs of the relational and private strategy, respectively. Here only social capital accumulation is considered and it is modeled in the same terms as in the two 'neoclassical' contributions. This model displays two asymptotic attractors: a 'private' one, in which everybody adopts the private strategy and social capital is low, and a 'relational' one, in which everybody follows the relational strategy and social capital is high. Again, along convergence to the 'private' equilibrium, the economy experiences a private expansion based on destruction of social opportunities and on substitution for them with private goods. In some cases the social poverty trap is just the result of a coordination failure, in other ones it is also due to impatience. It is interesting to notice that the effect of impatience changes in the model with both private and social capital, since in that case impatience leads to prefer present socially enjoyed leisure to future private consumption, so that it induces a substitution of social for private activities and thus fosters social capital accumulation.

Apart from the differences, the three models converge as to the main message: they show that, even with a homogeneous population, an economy may get stuck in a social poverty trap. Moreover, they all find that, along the transition path towards the socially inferior equilibrium, an economy may experience at the same time private growth (which is reflected in national accounting statistics), and social impoverishment (which is not): as a consequence, the usual macroeconomic indicators fail to detect this kind of dynamic inefficiency.

The basic engine of this mechanism (a substitution of time-intensive social activities for time-saving private ones) may be self-feeding, since when an economy is experiencing at the same time private growth and a decline in social participation and social capital, the time spent in social activities becomes both more expensive (in terms of opportunity cost) and less 'productive' (in terms of relational goods), so that it becomes even more convenient to shift time towards private activities²⁶. A simple

²⁶ This perspective on growth is connected to a strand of the environmental economics literature, which focuses on negative externalities. The idea that such externalities might stimulate private activities and therefore foster growth is studied within an evolutionary framework by Antoci and Bartolini (1999) and Antoci and Borghesi (2001). The same idea is further studied within a neoclassical framework by Antoci (1997a and 1997b), Bartolini and Bonatti (1997, 1998, 1999a and 1999b), Antoci, Borghesi and

intuition of this mechanism may be provided by the following example: if my friends work too much and do not have time to go out together, or if they do, but the environment does not offer any interesting social opportunity, I may decide to work more myself, in order to earn more, increase my level of private consumption, and therefore rely less on other people and on social environment as relevant sources of my well-being.

Once the possibility of a conflict between growth and social development (in terms of social capital, relational orientation and well-being) is acknowledged, the question becomes whether the mechanism that may lead to it and the conditions under which it emerges are plausible or not. Hirsch (1976) argues: “As the subjective cost of time rises, pressure for specific balancing of personal advantage in social relationships will increase. [...] Perception of the time spent in social relationships as a cost is itself a product of privatized affluence. The effect is to whittle down the amount of friendship and social contact [...]. The huge increase in personal mobility in modern economies adds to the problem by making sociability more of a public and less of a private good. The more people move, the lower are the chances of social contacts being reciprocated directly on a bilateral basis.” (p.80). This means that, in a society with a high degree of mobility, bilateral reciprocity is not enough, in the sense that many interactions take a one-shot form, and therefore people keep cooperating only if their trust is generalized, in the sense that they are ready to make a favor to a stranger with the (quite uncertain and unpredictable) expectation that someone else in the society will return it. This is for instance the case when someone watches a stranger’s children and expects other people to do the same in turn. As Putnam (2000) observes, “At this extreme, generalized reciprocity becomes hard to distinguish from altruism and difficult to cast as self-interest.” (p.135).

The relevance of personal mobility for the substitution of private for social activities is also investigated by Schiff (1992)²⁷, in whose words: “The need to cope with the high degree of isolation caused by the higher degree of geographic labor mobility may lead to the creation of alternative institutions where people who are not as close can interact (e.g., singles’ bars, dating services, nursing homes, insurance, and so on). These market activities enter into the gross national product (GNP) but do not necessarily imply higher welfare than in societies where some of these functions are carried out outside the market.” (p.167-168). Such argument is reinforced by DiPasquale and Glaeser’s (1999) empirical finding that homeownership, by reducing mobility, raises investment in social connections.

The issue of whether we should be worried about a process of social impoverishment and decline in social capital has started to receive academic and non-academic attention after Putnam’s (1995 and 2000) contributions. He documents a rise in U.S. social capital in the first half of the twentieth century, reaching a pick for most of its forms in the Sixties, followed by a marked decline from then on. The

Galeotti (2002) and Antoci (2002). A common point is that growth results from a coordination failure (a failure to internalize negative externalities) and is not necessarily desirable. An implication, shared also by Antoci, Sacco and Vanin (2004), is that, since impatience slows down undesirable growth, it may turn out to increase steady state welfare. The main difference between Antoci, Sacco and Vanin’s contributions and this literature is that the former are not focused on natural resources, but rather on social capital accumulation. While (reproducible) natural resources are typically subject to a spontaneous flow of renewal, social capital accumulation rather depends on individual choices of social participation.

²⁷ See also Schiff (1999) for a general equilibrium model of labor mobility in the presence of social capital.

general diagnosis on the contemporary U.S. society is therefore that it is becoming more selfish, less altruistic and less able to participate and cooperate on a reciprocity base: in one word, that Americans are bowling alone. The main culprits are identified in television and aging of the 'civic generation' of Americans born between 1910 and 1940, with a respective responsibility for up to a quarter and up to half of the decline in social capital.

Corneo (2001) presents striking empirical evidence that the time devoted to watch television and to work are positively correlated across countries and explains this evidence through a model based on the substitution between privately enjoyed and socially enjoyed leisure (i.e., between some private goods and relational goods). His results support the relevance of the mechanism discussed above, namely, of a possible self-feeding shift between social and private activities. Since he displays a static model with multiple equilibria, he focuses on static externalities of social participation and on coordination issues. The models developed by Antoci, Sacco and Vanin integrate such issues into a dynamic framework, which also allows to consider the dynamic externalities of social participation (i.e., time allocation to social activities) on social capital accumulation.

Costa and Kahn (2001) argue that the decline in U.S. social capital has been overestimated by Putnam, although some forms of social participation, like group membership and the time devoted to entertainment and visits with friends, relatives and neighbors, indeed declined in the U.S. from 1952 to 1998. They also cast doubts on Putnam's culprits, showing that the decline in the social capital produced outside the home is mainly due to rising community heterogeneity (especially income inequality), whereas the decline in the social capital produced within the home is mainly explained by women's increased labor force participation rate (always controlling for education). Moreover, they find that, while men mainly substituted social activities for television, women substituted them for work.

This hints at the fact that Putnam's emphasis on the role of television might be more relevant for men's time allocation patterns rather than for women's ones (at least in the U.S., but possibly more generally). At a more general level, it indicates that various dimensions of population heterogeneity play a crucial role for the analysis of social interaction and of social capital accumulation. While the emphasis on such aspects is shared, as we have seen, by Alesina and La Ferrara (2000 and 2002) and by Zak and Knack (2001), among others, a sound theory of social capital accumulation in presence of a heterogeneous population is still missing. One of the most interesting analyses from this point of view is due to Narayan (1999), who shows that social capital tends to exert positive aggregate effects when trust, norms and networks that foster cooperation extend beyond primary, ethnic, linguistic or even income groups and form 'bridges' across different groups²⁸. The reason is that the same links that keep together the members of a group may also exclude the non-members.

Inequality along some positional scale may be seen as a special example of population heterogeneity. This takes us back to the discussion spelled out at the beginning of this section, where we argued that relational and positional orientations may be simultaneously present but referred to different groups, for instance because solidarity with the members of my group (or of the group to which I aspire to belong) is the flip side of competition with the members of other groups. While this possibility

²⁸ He displays an analytical framework to study 'bonding' and 'bridging' (i.e. intra-group and inter-group) social capital at the level of the civil society, together with its connections to the functioning of the state.

is explicitly acknowledged in some of the contributions considered so far, for instance in those by Corneo and Jeanne, in most cases it is not²⁹. The literature on social capital then tells us that its potential effects in terms of well-being may crucially depend on its ability to ‘bridge’ heterogeneous groups and, in particular, to contrast the negative effects of positional inequality.

The above discussion has been carried out under the implicit assumption of a given set of dispositions and of corresponding social norms, in order to understand under what conditions certain relational or positional dispositions are stimulated by the economic and social environment, bringing about different possible equilibrium outcomes. The time has come to investigate how such dispositions and social norms may themselves evolve through the action of an underlying, ‘deep’ social selection dynamics. This issue is dealt with in the next section.

5. Cultural and economic selection: the evolutionary foundations of altruism and pro-sociality

We have emphasized so far either a cultural interpretation of social capital in terms of trust and norms of cooperation, or an interpretation in terms of associations and horizontal networks. The first aspect is the most relevant for our discussion of altruism and reciprocity. Indeed, as we have already noticed, “the touchstone of social capital is the principle of generalized reciprocity.” (Putnam, 2000, p.134). From a cultural point of view, altruism and reciprocity may be seen as (dispositional counterparts of) specific social norms, and norms are effective when people widely follow them. Therefore, we now focus on reciprocity and altruism as social norms and investigate some of the possible reasons that may induce people to adopt them. As mentioned in the introduction, a relational perspective on social norms is particularly suited to recognize not only their relevance for the determination of individual social identity, but also their evolution through time. We shall consider some recent contributions in evolutionary game theory that shed light on the mechanisms of norms evolution, and then complement them with some reflections on the role and context of altruism and reciprocity from an aggregate point of view, to understand where and how they can develop. As these issues have received considerable attention in the literature, especially in the past decade, this discussion is not meant to be exhaustive, but rather illustrative. In this volume, a wider discussion of altruism and social norms is spelled out by Elster in his chapter, and a more extensive analysis of the selection mechanisms that drive the evolution of social norms and social behavior is articulated by Bergstrom in his chapter.

The basic idea in the literature on social evolution is that cultural traits, like preferences, values, norms, habits and identities, are not (or not only) innate characteristics of individuals, but are rather endogenous, in the sense of being acquired through, or influenced by, various processes of cultural transmission and of social selection, which, in turn, are influenced by the economic institutions present in

²⁹ A possible reason is that the reference point of most contributions is constituted by traditional economic models, which are based on agents who are ‘neutrally’ oriented towards one another so that many scholars have started to introduce, one at a time, either positional or relational orientation in models in which neutral orientation is already present. For instance Corneo (2001) and Antoci, Sacco and Vanin (2001, 2002a and 2004) focus on neutral vs. relational.

a society³⁰. A deep account of this perspective, and of old and recent literature on the subject both in economics and in other social sciences, is provided by Bowles (1998)³¹. He discusses how markets and other economic institutions may affect individual preferences (conceived in broad terms as reasons for behavior), and identifies several possible channels. He argues that the replication of cultural traits depends, among other things, upon the interplay of two factors: the peculiar mechanism of cultural transmission (for instance from parents or teachers to children, or from peers to peers) and the social selection mechanism that leads to the replication of more rewarding traits (typically studied by evolutionary game theory). On both issues there is by now a considerable literature, which is also combined to the analysis of different models of learning. In the impossibility to review it here, let us focus on a simple example.

To fix ideas, suppose that Betty is following an altruistic norm that prescribes, say, unilateral donations in certain well determined situations. In a cooperative context, her donations may be reciprocated, so that it is easy to imagine possible scenarios where the norm turns out to be both (subjectively) highly satisfactory and (objectively) materially rewarding. There is therefore a good chance that Betty keeps following the altruistic norm and that she is even 'imitated' by other people, so that the norm spreads over. Notice that, in this cooperative context in which there is a straightforward incentive to behave nicely, whether people adopt the norm because of its apparent material convenience or because of the arousal of a deeper commitment to what they perceive to be the underlying disposition, is relatively irrelevant insofar as both possibilities yield the same behavioral prescription. In an opportunistic context, though, the altruist Betty may be materially exploited by others, with the consequence that, due to the undesirable payoff implications of norm compliance, other people are likely to choose not to embrace it. On the other hand, even if she is materially worse off, Betty may gain a high intrinsic satisfaction from donation, because she truly adheres to the norm she abides by, and is happy to see other people well off because of her, even if this does not deliver in material terms. Can then one conclude that, apart from our nice Betty, nobody else will embrace the norm? Not at all: despite the negative material payoff, some people may still find attractive to do the same as Betty, insofar as they either believe that adopting the altruistic disposition their subjective, non-material reward will more than compensate the material loss, or, even more radically, insofar as they choose to abide by the norm whatever its material or psychological implications in terms of well-being.

This simple example calls for some basic distinctions. First, a norm may be either embraced because it corresponds to an intrinsic disposition, as in the case of a true altruist, or instrumentally, because adopting the corresponding behavior turns out to be rewarding even if the individual would behave differently if he had to follow his

³⁰ Many models and ideas in this literature come from evolutionary biology. See, among the many possible references, Cosmides and Tooby (1992) for the connections between socio-biology and evolutionary psychology, Dosi, Fagiolo and Marengo (1996) for the issue of learning in evolutionary environments, Weibull (1995) for a theoretical perspective on evolutionary game theory and Basu (1995) for an interesting application to civil institutions. Some contributions go further, boiling social evolution down to genetic evolution, but we do not consider them here.

³¹ The general idea that preferences, although quite stable, may be endogenous, is not incorporated in textbook economics and requires a departure from an atomistic version of methodological individualism, to recognize that individual action takes place in social contexts, which may influence it. The methodological reasons for such departure were already clear two decades ago, as shown, among others, by Weintraub (1979), Granovetter (1985), Donzelli (1986) and Boland (1982).

intrinsic disposition, as in the case of an egoist who – in a context where other people are altruist with seemingly altruist partners and egoist with seemingly egoist ones – finds it egoistically convenient to pretend to be an altruist, and therefore follows an altruistic norm instrumentally. But, as the example suggests, even in the case of an intrinsic commitment to the norm, one has to distinguish between a truly unconditional commitment, i.e. the choice to embrace the norm irrespectively of its consequences of any nature, and a ‘rational’ one, i.e. the choice to embrace it in view of the favorable tradeoff between the psychological benefit and the material loss. We can therefore speak, respectively, of strong and weak non-instrumentality.

Secondly, in picking up more rewarding traits, social selection may consequently operate at different levels, according to whether the relevant rewards for selection purposes are the material ones or the psychological ones or some combination of the two. As shown in our example, in a cooperative context the selection mechanism may have little or no discriminatory power, whereas in an opportunistic context there is much more scope for discrimination. Clearly, in this latter case, strongly non-instrumental variants of the norm are not affected by the selection process insofar as they are not sensitive to payoff comparisons of any kind, thereby playing the role of a ‘drift’ factor (which may however bring about important consequences on the selection outcomes as they alter the relative convenience of, say, instrumental vs. weakly non-instrumental altruism vs. egoism).

Thirdly, social selection may not just operate at the individual level, but also the group level, i.e., entire groups may be induced to embrace norms that are highly rewarding when collectively followed, although their individual adoption yields a low payoff³². While under individual selection it is easy that Betty remains an isolated exception, under group selection her altruistic norms have much higher chances to spread over, as demonstrated by Sober and Wilson (1998).

We now consider some papers that investigate various aspects of this manifold set of analytic possibilities.

Sacco and Zamagni (1996) consider the evolutionary implications of several altruistic types³³ in the context of a simple contribution game and focus on ‘true’ (i.e., weakly non-instrumental) dispositions. They find that that each kind of altruistic disposition proves to be (evolutionary) robust against certain player types (or combinations of players) and weak against certain other ones³⁴. It follows that, from an evolutionary perspective, the discussion about altruism and its survival possibilities is a subtle one and requires the distinction among different kinds of non-instrumental altruism (e.g., more or less conditional, more or less consequentialistically oriented, etc.).

The possibility that individuals adopt a certain altruistic norm for instrumental reasons is investigated by Menicucci and Sacco (1997), who focus on two alternative types of ‘pseudo-altruistic’ behavior, namely, what they call ‘Rawlsian’ and ‘Nietzschean’ ‘pseudo-altruism’³⁵. ‘Rawlsian’ and ‘Nietzschean’ players act ‘as if’

³² Convincing examples are provided by Akerlof (1997).

³³ A type here is like a social norm: it specifies the appropriate behavior in several possible situations, it is a rule to decide behavior. The possibility that a norm has a direct behavioral translation is investigated by Sacco (1997), who studies the evolution of a cooperative norm in a prisoner’s dilemma situation and considers the willingness to enforce cooperation as a meta-norm.

³⁴ The same result is also found by Antoci, Sacco and Zamagni (2000), who, building on this work, consider the possibility of having three motivational types present in a society at the same time, while Sacco and Zamagni (1996) only allow for two types to be simultaneously present.

³⁵ They develop the λ -players approach elaborated by Menicucci and Sacco (1996).

they were maximizing, respectively, the lowest and the highest payoff between their own and their opponent's one³⁶. The basic idea is that self-interested individuals may find it profitable to act 'as if' they were altruists, since this choice, when shared by enough people, improves their own (selfish) payoff. The evolution of 'pseudo-altruism' therefore depends on its ability to provide higher than average selfish payoffs. It is shown that both kinds of 'pseudo-altruism' are potentially fragile, in the sense that they are able to survive and even spread over in certain contexts but not in other ones, and that 'Rawlsian' altruism can be particularly conducive to efficiency.

While these contributions focus on the evolution of certain kinds of altruism, Sacco and Zamagni (2001) concentrate on reciprocity in a hawk-dove game and consider both the possibility that it is undertaken for instrumental reasons and that it is embraced out of intrinsic motivations³⁷. A robust result in their model is that, whatever the initial distribution of player types in the population, the evolutionary dynamics leads to an equal split of players acting as 'hawks' and as 'doves' (which corresponds to a mixed strategy Nash equilibrium of the static game), at least as long as either intrinsic or instrumental reciprocity is represented in the population. Allowing for psychological externalities shows that, while 'relational' players may eventually dominate in equilibrium, with beneficial social effects, positional players cannot, precisely because they impose negative externalities on one another.

Although sometimes it may be difficult to identify the precise disposition that prompted an observed action, every day experience and an increasing number of studies³⁸ show that we indeed care very much about the 'true' intentions of others, and we interpret the same behavior in different ways, and therefore react in different ways, according to our beliefs about other people's intentions. As a matter of fact, a large number of social interactions acquire meaning only in the light of a mutual claim of absence of instrumentality. The meaning of a generous action towards a friend, a child or a business colleague lies precisely in its being gratuitous. If we found out that such action had sprung from an indirect, manipulatory logic, it would be read in a completely different way, and the response by the addressee could differ substantially. That is why it is not only necessary to distinguish between material outcomes and psychological satisfaction, which in general also depends on own and other people's alleged dispositions, but it is also important to understand whether a certain behavior follows from 'intrinsic' or from 'instrumental' motivations.

We have discussed so far a number of evolutionary game theoretic contributions, in which social selection leads to the diffusion of those traits that provide superior rewards. We have distinguished between material rewards and their subjective evaluation and have so far conceded that, in principle, social selection might operate at both levels. Let us now investigate more carefully these two possibilities. The hypothesis that what ultimately matters for social selection are

³⁶ As one can easily see, the reference to Rawls and Nietzsche is rather evocative than substantial.

³⁷ They consider a game in which a given surplus has to be distributed between two players, who can either pretend it for themselves or accommodate. Since distributive conflict is costly, they find it optimal to accommodate if the opponent pretends and to pretend if the opponent accommodates. The authors then study the evolution of different player types. They consider both 'naïve' players, who always play either as hawks or as doves, and 'sophisticated' players, who choose their action according to their opponent's type. Such sophisticated players may have different motivational orientations, namely neutral (traditional self-interested 'Best Reply' players), relational ('Rawlsian' players, who maximize the least advantaged player's payoff) and positional ('Positional' players, who maximize the difference between their own and their opponent's payoff).

³⁸ These studies include part of the experimental evidence discussed by Fehr in his chapter of this volume.

material rewards is coherent with the idea, studied by Björnerstedt and Weibull (1996) and by Schlag (1998), that social selection works through imitation (of other people's successful behavior). Indeed, it is easier to observe, and hence imitate, individuals' relative material success rather than relative psychological satisfaction. In such case, as pointed out by Menicucci and Sacco (1996), social selection tends to attribute a premium to those traits that have a high 'vitality', defined in terms of material (and therefore reproductive) success, over those ones that have a high 'satisfaction' potential, defined in terms of subjective evaluation of the outcomes. If, on the contrary, social selection works through reinforcement of own successful behavior, as studied by Börgers and Sarin (1997), it may well operate directly at the level of subjective utility, since, after experiencing a certain number of behaviors (or of different behavioral norms), individuals may infer which one of them may be most satisfactory and may adopt it with increasing frequency. In this case, social selection might offer a premium to satisfaction over vitality.

Joireman *et al.* (1996) present an interesting contribution in which players with different social value orientations are pair-wise matched to play a random sequence of games. Value orientations are geometrically represented as angles, whose co-sinus and sinus denote the importance attributed to own and other player's material payoffs, respectively. Consequently, if we restrict attention to positive co-sinus and omit pure altruism and pure sadism (corresponding, respectively, to $\pi/2$ and to $(3/4)\pi$), we find at 0 neutral orientation, at $\pi/4$ relational orientation, and at $(7/4)\pi$ positional competition. In this context, the degree of satisfaction of each given type of player depends upon the value orientation of the opponent. For instance, interaction between a pure altruist and a pure egoist is generally satisfactory for both of them, since they both just care about the egoist's material payoff and therefore pursue the same purpose; interaction between two positionally oriented players is unsatisfactory for both, because both try to be better off than the other one and therefore work in opposite directions; interaction between two relationally oriented players is satisfactory for both, since they both equally care about their own and the other player's material payoff. Mixed interaction between different types of players leads to articulated results, which are not easy to summarize here. The authors do not just compare the degree of satisfaction obtained by each motivational orientation in the various combinations, but also their vitality in terms of material success, i.e., accumulation of material payoffs. They find that, from the point of view of single individuals, neutral orientation displays the highest vitality, but from the point of view of the pairs the highest vitality is shown by the pairs of two relationally oriented players.

What is, then, the relevant dimension for selection: the materially-driven one, which creates a natural environment for instrumentality, or the psychological one, which is definitely more conducive to non-instrumentality? The former is clearly what is commonly meant by economic selection, whereas the latter may be phrased as cultural selection. In fact, neither of them is self-sufficient in regulating economic interaction completely. As J.S. Mill put it, culture and competition together are "the two agencies determining the market" (Schlicht, 1998, p.22). Apart from extreme circumstances, then, the relevant selection dynamics is likely to result from a combination of the economic and the cultural dimension. Of course, the specific weight of these 'two agencies' is not the same in different historical phases. At a very general level, one may argue that in traditional societies the predominant agency is generally believed to be culture (although someone claims that even in such contexts the apparent prevalence of 'culture' is, in Mill's terminology, nothing but

‘competition’ in disguise; see e.g. Townsend, 1988). In industrial societies, the forces of competition take over, in that, by virtue of the increasing productivity of the material side of the economy that marks the various stages of the industrial revolution, the material set of incentives trades off better and better against psychological ones. Finally, in post-industrial societies where saturation effects for material incentives seem to arise as a consequence of the attainment of a generalized, high standard of living in absolute terms (see e.g. Frank, 2003), the cultural dimension strikes back to some degree. This is clearly seen e.g. in the time series of the poll that is conducted on a yearly basis by the Japanese prime minister’s cabinet regarding the relative relevance of the material vs. spiritual dimension in determining life satisfaction in Japanese society: after a phase of prevalence of the material dimension up to the early eighties, one notices a steady growth of the relative relevance of the spiritual dimension, which in the past few years has been stably reported to be the primary concern for approximately two Japanese out of three (ACA, 2002).

The alleged inexorability of economic selection as the increasingly relevant dimension governing the evolution of market societies may therefore be questioned to a large extent. The outcomes of the selection dynamics may indeed be quite complex and subtle. Moreover, the relative strength of the various dimensions of selection (e.g., economic vs. cultural) is itself subject to adaptation, clearly on a much slower time scale and at a much deeper level. Therefore, the diffusion of altruism and of other (seemingly anti-economic) pro-social dispositions and behaviors, may be usefully investigated with the tools of co-evolutionary models. Research on these topics is still very preliminary, but is likely to flourish in the close future³⁹.

6. Back to the basics in the economic analysis of human interaction?

Notwithstanding the fact that most of the literature reviewed above is very recent, the discussion about positional and relational orientations, and their connections with economic growth, has ancient roots in the early debates among the fathers of political economy and the moral and political philosophers who constituted their natural reference. Two cornerstones of such debates are Hobbes (1651) and Rousseau (1762)⁴⁰. For the former, in the ‘state of nature’ human relations are characterized by violence, and the need of self-preservation from the *bellum omnium contra omnes* drives to a social contract and to the attribution of power to a superior ‘artificial person’, the State. Therefore, Hobbes might be seen as a modern father of a ‘positional’ view on human beings. In contrast, Rousseau develops a radical criticism of competitive passions and desire for distinction, based on the fact that they produce a division between being and appearing. His solution lies in the refusal of competition in favor of a re-discovery of the authenticity of the self and of the common good (the ‘general will’). Moreover, he thinks that the origin of competitive passions and of false identity lies in social relations, rather than in human nature ‘before history’. Hence, the internal transformation of the individual is the prelude to a passage from a society based on competition to a community based on solidarity and *philia*.

³⁹ For instance, Axelrod (1997) uses simulations with genetic algorithms to provide fascinating insights, but his research essentially calls for further theoretical and empirical studies.

⁴⁰ See Bardsley and Sugden’s chapter of this volume.

Therefore, some authors are willing to read Rousseau as a modern interpreter of a 'relational' conception of human beings⁴¹.

Although stimulating to some extent, straightforward interpretations of this kind risk to be misleading, not only for the over-simplification of the thought of seminal authors of such caliber, but also because they may induce the idea that relational orientations are intrinsically 'good' and positional ones intrinsically 'bad'. That the matter is more complicated is clear at least since Mandeville (1714), who contrasts two types of society: one is small, peaceful, frugal, homogeneous and close to commercial trade; the other one is large, open and militarily and commercially organized. In the first one there is a direct connection between individual intentions and social effects, because individuals know each other very well, defective behaviors are highly visible, modes of interaction are stable and standardized and the emergence of exotic behaviors and dispositions is unlikely. As a consequence, moral virtues are likely to spread over and are the source of public benefits, but such benefits are intrinsically limited: this closed and virtuous society cannot develop a prosperous and growing economy, scientific progress and political supremacy. In contrast, economic growth and prosperity are favored in the open, large, aggressively oriented society through private 'vices', like pride, ambition, envy and avidity, which are likely to be selected in this environment. Such vices, although morally unacceptable, are the source of public benefits, since they stimulate economic activity, especially through luxury consumption. The 'vicious' society may thus be much more vital than the 'virtuous' one. Mandeville is aware of the potentially disruptive social effects of the egoistic vices that promote economic welfare, but thinks that they are avoided by the fact that individuals learn, opportunistically, to simulate some necessary social virtues. Interestingly, he interprets such learning as taking place because of specific interests dictated by actual life in society and not as dictated by pure rationality in a fictitious state of nature. It is evident that several contributions discussed above articulate and formalize similar ideas, showing under which conditions certain dispositional orientations may be adopted, instrumentally or not, and may spread over, and evaluating the consequences of these dynamics in terms of social well-being.

An interesting aspect of Mandeville's reflection is that, for him, wealth and consumption do not just satisfy material needs, but entail a symbolic element: they attribute social status and distinction. In a similar vein, Adam Smith (1759) too considers the general desire to be admired and approved as one of the strongest and most pervasive human passions, but he derives different implications from Mandeville⁴². At the heart of his vision of human being there are self-love and desire for distinction. As for Mandeville, these are the engines of economic activity in a competitive society, but Smith emphasizes that the desire to be admired does not necessarily lead to private vices. One also desires to be approved by the 'impartial spectator' that is inside each of us, to be worth of admiration besides being admired actually. Social cohesion is not preserved by simulated virtues, but rather by true (i.e., non-instrumental) virtues: self-love is able to generate both growth and social cohesion. The Hobbesian struggle for life becomes, in the Smithian perspective, a more peaceful race for wealth. In contrast to Mandeville's emphasis on luxury expenditure, wealth accumulation is made possible by the virtue of prudence, with its

⁴¹ See Pulcini (2001).

⁴² Cole, Mailath and Postlewaite (1992) open their paper with this quote from Smith's *Theory of Moral Sentiments*: "It is not wealth that men desire, but the consideration and good opinion that wait upon riches".

content of foresightedness and sacrifice, whereas the invisible hand composes individual interests into social order⁴³.

Both Hobbes' competitive passion and Rousseau's utopia of solidarity seem to play a minor role in the society observed by Tocqueville (1840), i.e., after the advent of democracy⁴⁴. The reason is that democracy increases equality, which, in Tocqueville's view (but contrary to most of the theoretical and empirical evidence discussed in section 4 above), stimulates an individual sense of self-sufficiency, which tends to erode social ties and to generate atomization, anonymity and massification. One of the consequences is that individuals appear free and independent, but also weak and disoriented, and therefore show a paradoxical need of authority – one of the sources of the possible authoritarian degeneration of democracy⁴⁵. From a slightly different point of view, we might say that Tocqueville anticipates the contemporary widespread social dilemma between the need for security and the restrictions to freedom, through which security should be granted⁴⁶. While aware of democracy's dangers, Tocqueville's way out is in turn entirely internal to democracy and relies on its ability to promote associational activity, that is, it relies on the strength of civil society.

The intellectual stimulation brought about by the reappraisal of the originating thought of modern political economy through the lenses of current analytical tools can hardly be denied. Endorsing Hobbes's rather than Smith's point of view has been for a long time also a matter of ideological positions, e.g. in terms of one's inclinations toward an optimistic vs. pessimistic view of human nature and toward the likely implications that such a fundamental option would deliver. As we have emphasized, the basic lesson we learn from the recent literature reviewed in this chapter is that one should avoid evaluating, say, individual inclinations at their face value, but should rather try to understand the often tricky ways through which they may generate certain instantaneous aggregate outcomes and, even more importantly, the long-run outcomes of social dynamics. We do not want to maintain the naïve position that thanks to the new theoretical developments we can eliminate all ideological elements from political economy debates, but rather that we are now prepared to dig a big deeper into the economic and social implications of certain traits of human nature and of their likely effects in certain environmental contexts, and thus to allow for a more mature and articulate ideological debate on these issues.

The thought of the founding fathers of political economy provides us with a rich array of logical schemes that examine in subtle and complex ways the interplay between individual dispositions and behaviors, institutional settings, social and economic organization, and collective outcomes, often providing insights as to the possible dynamic mechanisms linking all these dimensions. No matter whether one agrees with Tocqueville (or with any of the other scholars cited above), it must be

⁴³ A criticism of both the contractualistic and the utilitarian approach is developed, after a discussion of Mandeville's thought, by Marina Bianchi (1993), who argues that both approaches use categories that are indeed adequate for a closed and homogeneous society, but not for an open and dynamic one.

⁴⁴ See again Pulcini (2001).

⁴⁵ From a different perspective, Marx as well emphasizes the fact that economic (capitalistic) development clears all the colorful personal linkages of the Middle Age and leaves individuals only linked through their private economic interests, determined by their production relationships.

⁴⁶ The difference is that loneliness and weakness are caused for Tocqueville by the tendency of democratic societies towards atomization and massification, but these factors must at least be complemented with international considerations to explain insecurity and freedom restrictions in contemporary democracies.

recognized that the recent developments of the literature on the economic analysis of human relationships reviewed in this paper invite to a new reading of these ‘classics’ and to a substantial broadening of economic modeling to address issues that have been all too often conventionally put outside the scope of economic theory. The re-reading of the classical texts is replete with surprises: there is an impressive number of hints and intuitions that have been disregarded by earlier readers but that now, in the light of the theoretical developments discussed in this paper, may be seen under a new light and may become fresh food for thought and inspiration, and are amenable to theoretical and empirical testing. The issue is clearly not, or not just, that of providing a more sophisticated interpretation of the Good Old Thought, but rather to lay down the first building blocks of a new, up-to-date approach to political economy that is equipped to put in their proper context the new problems posed by the new scenarios of advanced industrial societies and by their cultural and economic selection dimensions. We look forward to a stream of new and exciting research on these issues.

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