

Social Behavior and Economic Behavior

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In standard microeconomic textbooks, the core assumption is the existence of a rational agent fully characterized by resource constraints and a given utility function, perfectly independent from the social context within which (s)he evolves. This conception of the individual representation has been criticized both by economists and other social scientists.

The critic is in many ways misplaced. Truly the figure of « *homo oeconomicus* » has largely contributed to the successful development of economic analysis. Its restrictive assumptions allow economists to make precise predictions which can easily be empirically tested and possibly rejected. One cannot however deny that it provides an incomplete and oversimplified view of the interactions and economic exchanges taking place in the real world. Three main limitations have been put forward:

- The behavioral content of the core assumptions is too simplified. Who can reasonably deny that individual preferences to some extent depend directly or indirectly on what other individuals around are doing? People do care actually about what others think or say. Let us consider, as the simplest example, fashion, which has obvious implications in many economic sectors, from clothing to leisure and finance. This phenomenon is enlighten by acknowledging the importance of social interactions (see PESENDORFER [1995]).
- The standard view tends to reduce the extent of individual interactions to pure market exchanges, where individuals are concerned only with pecuniary gains, making economic relationships totally insulated from other types of social interactions. It is however clear that individuals do not trade only material goods but also do have exchanges along other immaterial dimensions like recognition, respect, envy and hate, and other characteristics which contribute to the cement of society. Furthermore, individuals do not necessarily exchange goods only through the market place: think for example of the family. Finally, markets are themselves social constructions, far from the ideal frictionless Walrasian abstraction. For instance, even financial markets, which may be seen as closest to that ideal, are places prone to rumors, herd behavior and band-wagon effects, gurus and fads sometimes leading to devastating speculation and self-fulfilling prophecies (FROOT *et al.* [1992]).

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- Eventually, the issue of the formation and social dynamics of preferences is completely evacuated from the traditional view. But obviously, we as human beings are psychologically, socially as well as biologically, determined by a human-made environment whose values and expectations we share, deliberately or not.

Indeed, economists have been well aware of the limitations of the mainstream framework of « *homo oeconomicus* ». From Adam SMITH, to Gary BECKER, Herbert SIMON or Kenneth ARROW, many authors tried to integrate broader social and psychological concerns into the analysis of economic behavior. Recently, a revival of this literature has led to a new research agenda to formalize socio-economic behaviors and assess their empirical relevance (see GLAESER and SCHEINKMAN [2000], and MANSKI [2000]).

Three main advances can be expected from this research program:

- A new perspective on how to define and model economic behavior;
- More interactions and intellectual exchanges between economists and other social scientists (in particular, psychologists and sociologists);
- A better understanding of the functioning of a market economy, leading to renewed normative implications for policy making.

It is with the aim of contributing to this research agenda that a conference on « **Social Interactions and Economic Behavior** » was held at the *Université Paris-I Panthéon-Sorbonne*, in *December 1999*. The present issue consists of the proceeds of this conference. The papers presented at the conferences were organized along four axes. A first set of papers consider the empirical relevance of the existence of interdependent preferences and behavioral puzzles which are hard to explain within the standard framework. A second group of contributions investigates the theoretical foundations of social interactions consistent with economic modeling. A third set of papers discusses the implications in terms of group formation and behavior under various institutional contexts. Finally, the last group of papers studies the links between social interactions and economic dynamics and their implications for the allocation and distribution resources.

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Empirical Studies on Interdependent Preferences

A large number of empirical work has been recently done to investigate the issue of interdependent preferences. These studies use experimental data or field surveys. The paper by Andrew E. CLARK is based on field surveys analysis while the contribution of Daniel J. ZIZZO and Andrew J. OSWALD follows the experimental approach .

The paper by Andrew E. CLARK considers the influence of the social environment on how people feel about being unemployed. The study uses data from the « *British Household Panel Survey* » which includes information about the state of mental well-being as declared by surveyed individuals. Using this set of data, the author shows that the loss of well-being due to unemployment is lower, everything else being equal, the larger the rate of local unemployment. Moreover, the probability to exit unemployment is higher for individuals whose loss of well-being from getting into unemployment is largest. These features suggest that the perceived loss of well-being from unemployment depends not only on the reduction in income associated to losing one's job but also on the surrounding environment of the agent. The social stigma associated to the position of being unemployed is strong when a small fraction of the population is unemployed but is less important when unemployment is a rather common thing. Andrew E. CLARK's contribution emphasizes moreover that this kind of phenomenon can cause unemployment's hysteresis. An increase in unemployment may lead to reduced incentives to actively search for a job, feeding back further into larger unemployment.

Daniel J. ZIZZO and Andrew E. OSWALD consider an experimental situation in which players can pay to get a reduction in other people's incomes obtained under "unfair" conditions. Though, it is costly to decrease the income of other players, a majority of agents participating in the experiment, chose this option. This type de reaction is obviously in contradiction with the standard motivation of « *homo oeconomicus* », who is supposed to be concerned only by his own income. Moreover, ZIZZO and OSWALD show that there is a strong correlation between the level of wealth or the rank in the income distribution and the amount of income which is destroyed. The willingness to pay is higher when it involves an income reduction of a rich person than poor one. Finally, the experiment run by ZIZZO and OSWALD suggests that the way income is earned matters: the probability to see an income reduced is smaller when people perceive the way it is earned as fair and deserved.

The two previous papers strongly emphasize the idea that individual preferences are affected by the social context. Taken together, they point to the necessity of enlarging the standard behavioral assumptions used in economics. This is what is done in the next set of papers discussing the theoretical foundations and conceptual aspects of social interactions.

Theoretical Foundations of Social Interactions in Economics

The paper by Andrew POSTLEWAITE considers the issue of social exchanges and arrangements which do not occur through the market and how economists should incorporate such arrangements in their analysis. According to POSTLEWAITE, social arrangements are means through which fundamental needs can be satisfied. If social arrangements going through the market place were different and isolated from non-market social arrangements, then, as noticed by POSTLEWAITE, there would be two distinct branches in social sciences: economics and sociology. Such a separation however is unwarranted. For instance, in many cases, consumption decisions do also have some social status meaning. This opens up then the way to consider social arrangements as consequences of incomplete markets. Taking this perspective, POSTLEWAITE shows how economic analysis can successfully incorporate social status considerations into its toolkit by discussing various models he has developed with his co-authors COLE and MAILATH.

Joel M. GUTTMAN's paper takes the ambitious task of studying the links between economic development and norms of "reciprocity". More precisely, he considers the stylized fact of a negative relationship between altruistic behavior and growth of a market economy. A good example of this phenomenon is for instance the contrasting values and behaviors observed between South Italy and North Italy. GUTTMAN provides a complex explanation, building on dynastic structures, evolutionary game concepts and multiple equilibria. The main argument is the idea that parents, in a non-market environment, may have an incentive to inculcate norms of "reciprocity" to their children because the latter represent an important factor of production whose cooperation is particularly worthwhile when parents get old. In turn, such a behavior promotes the existence of relatively closed societies, based on family and tribe relationships and prevents the development of a market economy. There is however another possible equilibrium situation, in which markets are well enough developed. In such a situation, individuals maximize their welfare, without the need for norms of "reciprocity" with their close relationships. This in turn makes the growth of market activities more sustainable. Under such conditions, the development of markets feeds on itself through increased individual mobility, which tends to destroy the existence of norms of "reciprocity".

In the recent literature, "reciprocity" is generally considered ambiguously as both a means to maximize one's utility function as well as an intrinsic psychological property of individuals. In the paper by Armin FALK and Urs FISCHBACHER, "reciprocity" is clearly defined as a "deep" characteristic of the individual's utility function and not as an instrument. Experimental economics has for some time emphasized the role of "reciprocity", in particular in many studies of the "Ultimatum Game". A first theoretical approach has been to include into the utility function a term reflecting the ethical behavior of the other players. An individual is then ready to punish another individual, even at some cost, if he feels that this other individual did not play fairly. FALK and FISCHBACHER criticize this approach as only taking into account objective proposals made by players and neglecting "intentions" and actual constraints faced by these players. Indeed, as they argue, a same proposal can be perceived quite differently from a normative point of view, depending on the intentions or the constraints faced by the player making such a proposal. After discussing experimental evidence suggesting that "intentions" do also matter in the formation of ethical judgments by individuals, FALK and FISCHBACHER propose a simple theoretical model, enlarging in this way the dimensions on which "reciprocity" is built up. They then show how such a model helps explain better some results from experimental economics than previous models where "intentions" are absent from the preferences.

The paper by Bruno S. FREY and Reto JEGEN also consider an important aspect of individual motivations which departs strongly from the mainstream hypotheses of « *homo oeconomicus* »: the "crowding-out" effect of intrinsic motivations by monetary incentives/transactions. The idea often claimed by sociologists and psychologists is that external incentive schemes, which are supposed to improve individual performances and efforts, can actually backfire because they induce a "crowding-out" effect on intrinsic motivations. After discussing the theoretical arguments for the existence of the "crowding-out" effect, Bruno S. FREY and Reto JEGEN survey the empirical literature in psychology and experimental economics. They relate also empirical evidence from econometric analyses on field data in different contexts (labor supply, non-profitable sector, waste siting, fiscal evasion, civic behavior). The main conclusion is that "crowding-out" effects on intrinsic motivations by monetary transactions are empirically relevant. Moreover, he argues for two related phenomena. First, there may be also the inverse effect of "crowding-in" where monetary incentives and external intervention

do enhance intrinsic motivations. Second, there is also the possibility of diffusion of the “crowding-out” effect to other domains through motivational transfer based on proximity or similarity of situations or people.

Norman J. IRELAND explores a new way to take into account social status and investigates its implications on individual behavior. He proposes to include two terms in the utility function. Along with the standard component of individual well-being derived from the consumption of a private or public good, there is an additional term reflecting the way this individual is perceived by others, *ie*, its social status. The public good is supposed to be a club good in the sense that only contributing agents can enjoy its consumption. Norman J. IRELAND then builds up a simple signaling game. Indeed, he assumes that individual consumption and income is private information and that only voluntary contribution to the financing of the public good is publicly observable. The latter can be in cash or in-kind (labor time). The voluntary contribution plays therefore a signaling effect through which an individual signals to others his level of private consumption which in turn affects the social opinion these people have on him. Studying the separating equilibrium, Norman J. IRELAND shows that the type of individual financing depends on the strength of the social status effect and on the agent’s income level. Poor individuals will choose to contribute with labor time for the production of the public good while rich individuals will contribute in cash. Considering the stylized pattern of voluntary contributions in associations and non-profitable sectors, Norman J. IRELAND argues that his model’s implications are consistent with available empirical observations.

Social Interactions, Segregation and Group Formation

Fernando JARAMILLO, Hubert KEMPF and Fabien MOIZEAU start from the same postulate as Norman J. IRELAND and also study a signaling game on consumption levels, using a similar specification of the individual utility function with a social status component. However, the issue now is to be accepted into the club rather than simply contributing to the public good financing. To be a member of the club, it is necessary to signal the capacity to pay for the club good. As individual income levels are private information, observable private consumption becomes a signal of the wealth of an individual. In other words, conspicuous consumption allows one agent to signal his capacity to pay and to be admitted into the club. Pooling and separating equilibria of this game are characterized and their properties are discussed. The authors then consider the issue of the circumstances under which a tax on conspicuous consumption can be *Pareto*-improving and which level of tax rate would be chosen by the median voter of such a society.

Cooperation within a social group is generally perceived as a positive feature for the members of that group. The paper by Hillel RAPOPORT and Avi WEISS shows paradoxically that this need not be the case when this cooperation triggers a feeling of envy and hostility from non-cooperative outsiders of the group. More precisely, when individuals have altruistic preferences limited to the group (social, ethnic or religious) and incentives to cooperate decrease with the size of the group, only members of the minority group do cooperate in trading relationships. The members of this community will get higher payoffs than outsiders. This may trigger a feeling of envy and hostility which can, in the end, be detrimental to the minority group. Moreover, each group’s member when cooperating does not internalize the negative hostility effect he imposes on his fellow members. Hence, it could be the case

that there is too much cooperation within the group from a collective point of view. Finally, an interesting aspect of the analysis of Hillel RAPOPORT and Avi WEISS is to consider endogenous group formation: they show that free entry leads to complete dissipation of the potential gains of cooperation within the group.

In their paper, Harris SELOD and Yves ZENOU also analyze social interactions within minority ethnic group. Their focus is on the implications for the functioning of labor markets and decisions of spatial location\concentration. More precisely, having in mind the situation of US cities, the authors consider a society with three groups of agents: a “white” majority group, members of the minority ethnic group who wish to adopt the culture and social norms of the majority group (the so-called “integrationists”) and members of the minority ethnic group who prefer to remain in conformity with their ethnic identity (the so-called “conformists”). Access to jobs depends on the quality of the social network of the worker and the geographic distance between the place of residence and the workplace (the “business district”). In such a context, workers, when choosing their urban location, face a tradeoff generated by transportation costs between they live and where they work and their taste for social interactions. The paper shows that there are multiple equilibria. A first equilibrium situation is one where the “white” majority lives close to the “business district”, while the minority “conformists” live far away from it. The other equilibrium is exactly the mirror image with the majority away from the “business district” and the “conformist” minority close to the workplace. In both cases, “integrationist” members of the ethnic minority find themselves in-between the other groups. Because of their higher social network’s quality, access to jobs for “white” workers is less sensitive to physical distance than for ethnic “workers”. Therefore, as confirmed by the authors through simulations, the second type of equilibrium *Pareto*-dominates the first one.

Social Interactions and Economic Dynamics

The paper by Alberto BISIN and Thierry VERDIER emphasizes the dynamics of cultural values in a very salient socio-economic context for our modern democracies: the Welfare State. More precisely, building on their recent research, the authors consider a model of socialization and intergenerational cultural transmission of preferences for a good (public or private) publicly provided by majority voting in the economy. The interesting aspect of the analysis is to show the existence of a two-way causality between cultural values and political outcomes. On the one hand, expectations about a future political outcome affect the parents’s incentives to transmit their preferences to the next generation. On the other hand, the political outcome implemented in a given period, reflects the distribution of preferences of that period, which in turn is the result of past socialization decisions. This two-way causality leads to the existence of multiple equilibrium paths of cultural evolution and political outcomes with a tendency towards homogenization in the long run. One interesting implication of the paper is to rationalize the idea of ideology. In the present context, an ideology can be viewed as a equilibrium selection mechanism coordinating agents’s expectations on a given path. Clearly, the final preference structure emerging in the long term will depend on which ideology happens to be largely shared within the population. Given the strong redistributive consequences that this entails, it is then not surprising to see why ideologies do generate so much conflicts within societies.

David de la CROIX and Philippe MICHEL also consider the implications of the intergenerational transmission of cultural values in a dynamic context. More precisely, they discuss the role of altruism in a model in which individuals inherit standard-of-living aspirations based on the consumption level of the previous generation. It is well known that the standard model of overlapping generations with altruism is equivalent to the infinite horizon agent's model, as long as bequests are strictly positive. In the present context however, altruism is still operative even with no bequest between generations. Indeed, it allows the present generation to take into account the impact of their own consumption level on the aspirations and consumption of the next generation. The authors then show that this mechanism increases capital accumulation and has a stabilizing effect on the economy. An important point of the analysis is also to characterize how the intergenerational transmission of standard-of-living aspirations interfere with the decision about bequest. This affects the frontier between regimes with positive bequests and those with zero bequests.

Emmanuelle AURIOL and Régis RENAULT discuss the role of social interactions within a more microeconomic perspective. They consider the effects of social status on the optimal determination of incentives in hierarchies. Typically, the incentive literature neglects all aspects related to social status seeking by individuals within organizations. Here, the authors emphasize the importance of these social aspects for the functioning of a firm or an organization. Their framework provides a strong rationale to use promotions as an incentive device, exploiting existing complementarity between income and social status. The paper then characterizes the factors determining the optimal hierarchical structure. In particular, they show that the optimal hierarchical will be more pyramidal in terms of monetary and social rewards, the harder it is for an agent to improve performances through effort. The authors also provide conditions under which a seniority system is optimal.

The influence of social interactions and cultural values is discussed by Giacomo CORNEO within the political economy dimension of redistributive conflicts. More precisely, the paper asks what determines the individual preferences for redistribution within society. Giacomo CORNEO distinguishes three factors. First, there is a pure «*homo oeconomicus*» effect reflecting the egoistic interest associated with a certain pattern of resource distribution in the economy. The second effect (so-called “public values” effect) would rather capture some overall ethical vision of what an individual would consider a fair\efficient distribution of wealth in society. Finally, the last effect corresponds to the existence of negative interdependent preferences (the “social rivalry” effect) by which individuals would perceive the distribution of income in relative terms rather than absolute levels . The paper develops then a methodology to empirically measure the importance of these three components using data from the US, West Germany and East Germany. The main point of the analysis is to show that the three aspects seem to matter to explain the structure of preferences for redistribution in West Germany while, the “public value effect” disappears for the US and that only the «*homo oeconomicus*» effect is significative for East Germany.

Alexis DIRER investigates the impact of social status on an important economic variable for economic dynamics, namely savings. More precisely, he considers a simple two period model in which individuals care in each period for their relative rank in terms of consumption. Agents are differentiated according to their initial wealth. In such a world, Alexis DIRER shows that in order to maximize their welfare, agents tend to concentrate their consumption in the period in which it is relatively easier to get a high rank, namely the period where the distribution of consumption is the

most egalitarian. When this period is the first period of the life cycle, this means lower individual and aggregate savings. This result is interesting as it contradicts the weberian intuition that social status seeking should lead individuals to accumulate more savings.

In a famous book, *The Winner-Takes All Society*, Robert FRANK and Philip COOK discuss the impact of information technologies on the distribution of wealth and social status in society. They argue that, far from reflecting marginal productivity levels, there is a tendency within the “post-modern” society to provide all the rewards to the best. This would then explain the increasing wage gap between skilled and unskilled people, between winners and losers. The paper by Gilles SAINT-PAUL formally investigates this issue. Gilles SAINT-PAUL presents a simple model in which workers can be differentiated along two dimensions: “productive” skills and “creative” skills. Ideas generated by “creative” workers can then be diffused within informational networks and used for production without any additional replication cost. In such a framework, the emergence of new information technologies can be captured by an increase of the size of the network. Gilles SAINT-PAUL shows that such an increase in network size generates three effects. First larger informational networks will increase the relative return of “creative” skills and lead to increased income inequality in a certain range. On the other hand, there are two countervailing effects. First, the best ideas will benefit to all workers of the network. Second, with a larger size of the network, a larger set of good ideas are available for production, making “creative” workers relatively less precious. Gilles SAINT-PAUL’s vision on the future of income inequality therefore appears more optimistic than FRANK and COOK’s

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As is suggested by the collection of papers of this special issue, the field of social interactions is particularly fruitful for economists. The behavioral assumptions of « *homo oeconomicus* » have been substantively relaxed and the implications have been discussed in many areas of interest (labor supply, family, ethnic groups, Welfare State, tax policy, crime, political behaviour and technological change). True, many promising lines of research remain unexplored. To conclude, let us mention three of them which appear as particularly salient.

- The development of rigorous methodologies to identify empirically the precise channels through which social interactions affect individual behaviors. In particular, it would be worthwhile to separate as much as possible what comes from interactions at the level of preferences or values from what is related at the level of beliefs or technologies. As mentioned by MANSKI [2000], such an approach would lead to a more systematic collection and exploitation of “subjective data”. Economists will have to study not only what people really do but also what they intend to do or think they will do.
- The systematic study in various institutional settings of the genesis of social interactions and their link with economic dynamics. Current major evolutions like globalization, technological change, global external effects and the redesigning of continental and national public policy spaces, clearly ask for an ever increasing need to understand the social consequences of such changes.

- Finally, as some methodological papers presented at the *Paris conference* suggest, there is the need to provide a bridge between the new economic psychology (RABIN [1998], BENABOU and TIROLE [1999]) and the study of social interactions. How the individual paradigms of the new economic psychology are to be translated in terms of social phenomena at the group level? What are their implications for economic and social policy? Such an approach by bringing “psychoeconomic” foundations to the preference interdependencies that are postulated in the social interactions literature should help economists to enlarge the restrictive «*homo oeconomicus*» framework without losing its strength: parsimony and falsification power.

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