Conceptualization of the Person in Social Sciences
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CONCEPTUALIZATION OF AGENTS IN POSITIVE ECONOMIC THEORIES

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1. INTRODUCTION

Two typical economic agents are: (i) the individual, consuming, working and saving, (ii) the manager of a firm. Whereas normative theories focus on comparing economic systems, as well as on the individual and collective choices which would be best appropriate for the fulfilment of human objectives, positive theories claim to be realistic, that is to represent phenomena as they are, each theory in the particular domain it is studying. Realism of the conceptualizations here discussed for the economic agents should be judged in each case, especially by reference to what most matters for the well defined economic phenomenon under examination.

Homo economicus, pet hate of humanism, was and remains at the center of controversies and misunderstandings between economists and others. This paper would like to contribute to reduction of such misunderstandings.[2]

[1] Une version française est disponible sur le site de l'Académie: http:/www.vatican.va/roman_curia/pontifical _academies/index.htm

[2] The expression *homo economicus*, or equivalently 'economic man', was frequently used in the twentieth century. But its origin in the nineteenth is somewhat obscure in the history of my discipline, as shown by J. Persky, 'Retrospectives: the ethology of *homo economicus*', *Journal of Economic Perspectives*, Spring 1995. The earliest explicit use of the expression he could find was in a 1888 book advocating a broad sociology in the tradition of Auguste Comte and disparaging J.S. Mill's political economy. But the author did not claim to be an inventor of the phrase. From other evidence concerning the same period, Persky infers that 'economic man' was the buzzword around Cambridge in 1890. Probably also, in the preceding decade or so at least, the expression had been more used by critics than by proponents of the new trend in classical theory. I owe to François Etner to have brought my attention to this historical puzzle.

From the outset we must still note that conceptualization of the agent cannot be fully isolated from conceptualization of the context in which it is supposed to act. For simplicity here, all contexts considered will assume a market economy similar to those existing since many years in OECD countries.

The Thesis Here Argued

Some of the main fundamental models in positive economic theory rely on the hypothesis of purely rational individual agents motivated by self-interest and faced with impersonal markets. As a first approximation made in these models, the hypothesis is not necessarily bad for specified economic behaviors in market economies, particularly if we recognize that persons often distinguish between several spheres of activity, which all contribute to implementation of their life plans.[3] How the idea emerged in the history of economics will be reported here in Part 2.

The importance of the hypothesis in the corpus of positive economic theories is much more limited than is often believed, because many models in this corpus bear on contexts in which the freedom of agents is formalized as subject to definite constraints, in which some agents are groups of individuals acting collectively, and/or in which perfectly competitive impersonal markets have to be replaced by forms of imperfect competition ruling various kinds of interpersonal relations. This will be the guideline of Part 3.

Parts 4 and 5 will deal with the main conceptualizations of economic agents, respectively focusing on individuals in their private decisions and on firms.

Today economists have to recognize existence of systematic deviations of economic behaviors from what the hypothesis of purely rational and selfish agents would imply. Embodiment of the main such deviations in positive theories is a challenge now faced in many research reports, but not yet fully met. That will be the subject of Part 6, before the tentative conclusions of Part 7.

[3] The statement will be explained and qualified later, as we shall be going along.

2. Brief References to the History of the Discipline

2.1. *Adam Smith*[4]

Still today Adam Smith's famous 1776 book *The Wealth of Nations*[5] is vilified by many as contrary to humanism. A serious reading of the Scottish author should exempt him from such a charge, which he hardly deserved. His conception of the human person is to be found in another book *The Theory of Moral Sentiments* (1759), which he regularly revised until his death. He there explains how so self-regarding a creature as man succeeds in erecting barriers against his own passions. The starting point is an answer to the question: 'Wherein does virtue consists?'. Smith insists that there are three components: certainly 'benevolence', but also 'propriety' (by which he means conformity to moral norms) and 'prudence', within which he ranks self-interest.[6] In *The Wealth of Nations* characteristics of the human person in its economic dealings deserve just one page, in which he writes: 'Man has almost constant occasion for the help of his brethren, and it is in vain for him to expect it from their benevolence only. He will be more likely to prevail if he can interest their self-love in his favour, and show them that it is for their own advantage to do for him what he requires of them. Whoever offers to another a bargain of any kind, proposes to do this'.

The book must be seen in his historical context. 'Smith's system of thought took its shape from his intense reaction against the elaborate apparatus of controls which the surviving feudal and mercantilist institutions were still imposing on the individual. The need for removing these controls was Smith's underlying theme' (Skinner, op. cit.). But he could present a forceful argument about the existence of a natural order which would make all the individual strivings for self-interest add up to the social good. At the same time he could exhibit a good deal of common sense about the way to implement such an order.

[4] This is partly drawn from A. Skinner, 'Smith, Adam (1723-1790)' in *The New Palgrave Dictionary of Economics*, Macmillan, London 1987, as well as from J. Evensky, 'Adam Smith's Theory of Moral Sentiments: on morals and why they matter to a liberal society of free people and free markets' *Journal of Economic Perspectives*, Summer 2005.

[5] Reprinted with introductions by The Modern Library, New York, 1937.

[6] In a footnote Persky notes incidentally that the Italian expression *economo prudente* was discovered by Schumpeter in a writing dating from circa 1629.

2.2. *A Methodological Stand*

Two criticisms were recurrently addressed, during the last two centuries, to the representation of the individual economic agent by the classics: its abstract nature and its selfishness. John Stuart Mill was probably the first economic theorist to have formulated rebuttals of these criticisms, which he took seriously. His arguments can be found in two of his essays, published respectively in 1836 and 1843, as well as in his main book first published in 1848.[7]

Mill argued in 1836 that economic theory must be based on abstract concepts: '[political economy] does not treat of the whole of man's nature as modified by the social state, nor of the whole conduct of man in society. It is concerned with him solely as a being who desire to possess wealth, and who is capable of judging of the comparative efficacy of means for obtaining that end'. I agree with Persky (see footnote 2) in thinking that the last sentence is not entirely clear, even after the following text of the same 1836 essay, which I interpret as showing that 'possess wealth' means something more general, quite close to 'fulfil his own interest'. Also I interpret the capacity stated in the last part of the quoted sentence as quite close to the capacity of 'behaving rationally'.

Probably independently, Vilfredo Pareto took the same stand about the role of abstraction, then speaking of *homo oeconomicus*, in Chapter 1 (§ 21 to 27) of his *Manuale d'economia politica*.[8] He explained that the economic man was an abstract concept appropriate for pure economic theory. He ended by: 'We may say: sometimes actions of the concrete man are approximately those of *homo oeconomicus*; sometimes they are assimilated almost perfectly with those of homo *ethicus*; such others are closely assimilated with those of homo *religiosus*, and so on; such others still are like actions of all these men'.

[7] 'On the definition of political economy; and on the method of philosophical investigation in that science', *The London and Westminster Review*, October 1836; 'A system of logic, ratiocinative and inductive', 1843, reprint in his *Collected Works*, Toronto Press 1967; *Principles of Political Economy with Some of Their Applications*, Parker, 1848. The seventh edition of the book appeared in 1871, two years before Mill's death. It appeared again in 1961 in *Reprints of Economic Classics*, Kelley, New York.

[8] Società Editrice Libraria, Milan 1906.

2.3. *Development During the Nineteenth Century and Early Twentieth*

The fact that, after the first decades of the industrial revolution and some of its social impacts, the nineteenth century witnessed violent criticisms of capitalism can easily be explained. Indeed, today important branches of positive economics, dealing with labor economics, industrial structures or financial crises, accept a large part of these criticisms.

Among critics a mention must be made here of 'Christian socialists' and other Christian reformists who were active in the middle of the nineteenth century. In their famous *History of Economic Doctrines* Gide and Rist devote a full chapter to this multifarious movement. The 1891 encyclical *Rerum Novarum* well drew, for the Catholic Church, a number of implications of the events and controversies of the earlier decades. It focused on the conditions made to the workers and on the relations to be established between labor and capital.

At that time a new generation of economic theorists was very active and introduced not only abstract but also mathematical formulations of their theories.[9] Other theorists, although reluctant to the introduction of mathematics, well accepted 'marginalism', which had been introduced by the new generation. The most representative figure among economists in 1900 and the first decades of the new century was probably Alfred Marshall, who published his *Principles of Economics* in 1890 and died in 1924.[10] He was often considered as representative of the 'neoclassical school', but he had been young teaching Moral Sciences in Cambridge. The first sentence of his *Principles* reads 'Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing'. Hence Marshall well accepted to isolate for study one part of human action.

[9] 'Plusieurs économistes éminents, simultanément en Autriche, en Angleterre, en Suisse, aux Etats-Unis, revendiquaient avec éclat pour l'Economie politique le droit de se constituer à l'état de science exacte ou, comme il ledisaient, d'Economie Pure. ... *L'homo oeconomicus*, qu'on avait si fort raillé chez les classiques, est remis en honneur', Gide et Rist, *Histoire des Doctrines Economiques*, 1915 (pages 559 and 560 in the seventh edition, Sirey, Paris, 1947).

[10] See J. Whitaker, 'Marshall, Alfred (1842-1924)' in *The New Palgrave Dictionary of Economics*.

However, he was anxious to keep *homo economicus* at a distance.[11] He emphasized that human motivation in economic affairs was not merely a matter of pursuing pecuniary self-interest, even broadly conceived to include interests of family and friends. He stressed the human desire for social approbation or distinction, and the pleasure of skilful activity. Individuals were for the most part seen as imperfect optimizers, often failing to see their long-term interests. Such views would reappear, be substantiated and seriously studied a century later, as we shall see in section 6.

Notwithstanding his reservations about *homo economicus* (and also, by the way, about the use mathematics in economic theory), Marshall accepted the contributions of the new generation of economists who had, a little earlier, given a new content to the classical study of economists. In the *Principles* five authors are often quoted, all Englishmen: Smith, Malthus, Ricardo, Mill and Jevons (1835-1882). This last one is commonly considered as one of the three founding members of neoclassical economics, the Austrian Menger and the French Walras being the other two.

2.4. *General Equilibrium Theories, Theory of Games and Other Fundamental Deepenings*

The middle of the twentieth century was marked by fundamental progress in theories. We saw a revival of macroeconomics, Keynes being the main initiator for models of the business cycles, Solow for growth models. Public economics was reformulated. Still more remarkable was the emergence of new mathematical foundations for the theory of imperfect competition with the theory of games, and for the theory of prices and resource allocation. Concerning the latter, deep investigations bore on what

[11] In the first chapter of his *Principles* lengthy passages deal with his positions on questions of methods and substance. It is relevant to quote here page 25: ‘Perhaps the earlier English economists confine attention too much to the motives of individual action’, and on page 26-27: ‘In all this [economists] deal man as he is: not with an abstract or ‘economic’ man; but a man of flesh and blood’. Here Marshall was clearly thinking about Mill’s essay. Indeed in Appendix B to this chapter (‘The growth of economic science’) after praising Mill’s main book, Marshall explains in a long footnote: ‘John Mill wrote an essay on economic method in which he proposed to give increased sharpness of outline to the abstractions of the science. ... A change had come over his tone of thought and of feeling before he published in 1848 his great economic work’ (page 764). References to pages of the *Principles* here concern the eighth edition, Macmillan, New York, 1948.

would be the general equilibrium of a complete competitive market economy in which many decisions would bear on the future (more precisely on an uncertain future). Finally we should not forget the study of the consequences following from the fact that real market economies were different from what was assumed in any mathematical model.

This multifarious progress often needed an increase in abstraction. It made economic theory more difficult to learn and to apply. It also meant an increasing isolation of economics from neighbouring social sciences. In order to avoid some misunderstandings which I could witness outside of my profession, I must stress that extended general equilibrium theory, as taught in advanced courses, was not taken as giving undisputable foundations to macroeconomic theory, or as a matter of fact to any other field of application of economics.

Such was the past.

3. On the Diverse Contexts Studied in Positive Economic Theories

3.1. *Realities of Market Economies*

In real economies a great diversity of agents operate on a great diversity of goods and services. However, the most developed theory of the market economy assumes still many more goods and services than are actually exchanged on markets (indeed, materially identical goods are identified as different in this theory as soon as they are to be available at different times, or simply under different sets of possible circumstances). The theory in question also assumes that on all markets the law of supply and demand applies (for each good so stringently defined, the total of supplies just matches the total of demands, because the price adjusts up to what is required). In order to come closer to reality other theories assume the existence of 'market constraints': a less rich set of markets is assumed, and/or supply is recognized as possibly exceeding, or being short of, demand on some markets.

Quite naturally, theories dealing with different phenomena will assume different sets of market constraints, and correspondingly different kinds of economic behaviors. What really matters for a relevant science is that, for each phenomenon, an appropriate set of constraints and behaviors is recognized. So, old distinctions between theoretical domains are recovered and put in better perspectives with one another.

3.2. *Individual and Collective Agents*

When closely analyzing real economies it is almost inescapable to recognize not only different types of decisions but also different types of decision makers. In particular organizations, such as corporations, trade unions, administrations and the like, have a sufficient autonomy to be usually taken as decision makers, hence agents.

For simplicity we shall make no attempt here at describing the conceptualization of all such collective agents. We shall consider only two types of agents: the persons as individuals consuming, saving and working (we shall hardly pay any attention to households), and the firms, then distinguishing between individual entrepreneurs and (large) enterprises.

3.3. *A Short List of Subdisciplines*

The fundamental, but special, theory of the competitive general equilibrium and prices had a strong impact on some more focused theories such as that of international trade or on Solow's model of economic growth and its successors. But theories of imperfect competition or of general equilibrium under market constraints, although less tightly unified, provide more frequent references in the analyses of labor economics or of short-run business cycles. Public economics exhibits a multiplicity of models of its own, dealing with various kinds of policies (monetary or fiscal policies, regulation of competition, provision of public services).

It would be possible to trace what remains of *homo economicus* in these various domains. Considering the object of this paper we shall rather identify and briefly examine a few important behaviors. But two general remarks are here appropriate.

Some subdisciplines work essentially at the macroeconomic level and pay little attention to the characterization of individual persons or firms, preferring to base specification of their models on factual information about economic structures and on empirical regularities observed between aggregates. This is a respectable position. But it must be granted that close characterization of individual behavior would nevertheless be useful for best understanding and interpreting the theories. Such microeconomic foundations of macroeconomic models will not be considered here.

No economic theory can cope with the economic drama of societies experiencing acute conflicts or the consequences of major crises. Some social order has to be somehow assumed to pre-exist for theory to make sense. The remark probably applies to other social sciences as well.

4. Conceptualization of the Person as an Economic Agent

Concerning individuals to whom this part is devoted, three behaviors will be studied, which should be enough to convey a proper view of the diversity in current conceptualizations and of the hesitations expressed about them by economists: the acts of consumption and saving, behavior towards work and behavior in relation to the family.

4.1. *Consuming and Saving*

An important question in economics is to know how aggregate consumption reacts to changes in conditions affecting household behavior. In order to deal with it we naturally look, first, at the behavior of the individual consumer, and second, at the aggregate implications. The second step is not trivial, but falls beyond the scope of this paper. Considering the issues to be tackled, we most often find it appropriate to pose the individual problem directly in terms of volumes of immediate and future consumption, so aggregating across goods and services consumed.

The agent essentially has to plan the series of its consumption levels in conformity with the volume of its initial wealth and current income, and also with expectations of its future incomes. The main limitation is the intertemporal budget constraint stating that eventually the agent will not be able to spend more than its resources will permit. For economists it is then natural to characterize the objective of the agent as meaning the maximization of a function of the series of consumption levels. The function is naturally called the 'utility'. Indeed, the approach belongs to the positive side of what has been called utilitarianism, as against its normative side which does not belong to the scope of this paper. It is, of course, restrictive, but less so than its normative side.

In some respects such a framework is actually quite flexible. Other constraints can be added, such as those following from the idea that the agent can never borrow out of proportion with its current wealth. The theoretician can also consider various specifications, each one being suited to one aspect of the consumption-saving behavior (saving may serve for smoothing the flow of consumption when the flow of income experiences irregularities; or it may be used for permitting a satisfactory life cycle of consumption; its future course may depend on whatever familiarization with a given level of consumption occurred in the meantime; and so on).

Quite naturally predictions of the model chosen will be all the more precise as the specification will be more narrowly defined. This is why theoreticians got used to particular forms of the consumer's objective function. A precise specification may serve here as an example, which might be labelled for our purpose 'the utilitarian objective' (the label is actually excessive because it was used for a broader class of objectives). If C_t denotes the level of consumption in future period t, a function $U(C_t)$ characterizes the utility obtained in period t, a positive number g, usually assumed smaller than 1, characterizes the factor discounting future utilities and the objective then is simply the sum of the terms $g^t U(C_t)$ over all the period considered ($t = 1, 2 \ldots T$). Just in passing I note that this specification is inappropriate for a close study of either the life cycle (during which consumption needs vary) or the effect of familiarization to earlier consumption levels. But it was often found appropriate for studying consumption smoothing or precautionary saving.

Representation of the reality of behavior does not stop with the choice of a model such as the one sketched above. Research continues with a dialogue between theoreticians and econometricians. The latter must empirically estimate the laws of behavior from observed data. If they do not invalidate the proposed model, these empirical laws provide information about the values of its parameters. If on the contrary they invalidate it, the theoretician is led to revise his or her model (we shall see an example of that type in Section 6.2). Thus the dialogue puts order and discipline in the progress made in parallel by theoreticians and econometricians. It insures in particular that the theoretician does not fall prey of a dogmatic acceptance of the formalizations on which she or he worked.

4.2. *Working and the Individual in Labor Economics*

Robert Solow[12] wrote: 'Common sense ... seems to take it for granted that there is something special about labor as a commodity, and therefore about the labor market too ... Wage rates and jobs are not exactly like other prices and quantities. They are much more deeply involved in the way people see themselves, think about their social status, and evaluate whether they are getting a fair share out of society ... It does not follow ... that the ordinary forces of supply and demand are irrelevant to the labor market ... [But] the labor market [is also] a social institution'. Indeed , even for a well defined job, contracts between employers and employees are very different

[12] *The Labor Market as a Social Institution*, Basil Blackwell, Oxford, 1990, page 3.

from contracts, on the goods market, between buyers and sellers. Labor contracts are more tightly regulated and subject to stricter moral norms. They stipulate more or less long attachments to the job. Most often, wage bargaining involve trade unions and trade associations rather than directly the employer and the employee.

Not surprisingly, when representing economic agents, positive theories of labor economics take various viewpoints, which reflect the special and dual position of work described by Solow.[13] Most models of 'the supply of labor' by a worker are close in spirit to models of the supply of saving, just alluded to above. But other important models take quite different stands, such as most of those concerning wage bargaining where the main agents are no longer persons but organizations such as trade unions. The exact relation assumed to exist between a worker and his or her trade union then raises the kind of problems we shall find in the next part of this paper about the conceptualization of decisions in the firms.

As an example in which identification of the worker is still fairly direct, I may take here the characterization of job search, which is an essential part in theories[14] dealing with flows on the labor market (flows of people moving from unemployment to employment, or the reverse, or still from unemployment to 'out of the labor force'). From their representation of the determination of such flows these theories often find that job search of workers may be characterized as containing a simple rule: 'accept the first job offer which will provide a wage at least equal to your predetermined "reservation wage"'. Determination of the latter wage by the worker will of course depend on what Solow wrote, but also on self-interest, hence on the 'state of the market', i.e. in particular on the pressure of demand for labor by employers. Similarly when formulating their job offers employers will wonder about the current levels of 'fair wages'.

4.3. *The Individual in the Family, and Non-Economic Behaviors*

It is common for economic theories to ignore the fact that most individuals belong to households in which they live with others, and also belong

[13] The inherent complexity of labor economics is apparent in the so-called *Handbook of Labor Economics* published by Elsevier in a series organized by K. Arrow and M. Intriligator: five big volumes.

[14] About these theories, see Chapter 39 in the *Handbook of Labor Economics*: 'New developments in models of search on the labor market', D. Mortensen and C. Pissarides.

to families in which they were born and raised, to which they will leave human, cultural and material assets. Most often this simplification of the facts has no damaging consequence for the relevance of the particular subject discussed. Moreover it is possible, and indeed done, to duplicate the simplified model of a phenomenon by more realistic and more complex models addressed to the study of the same phenomenon as lived by households or families.

The economics of the family, as first defined by Gary Becker,[15] pretends to go beyond such transpositions and to explain by economic factors marriage, birth of children, divorce and the like. Partners are then characterized as economic agents moved by the same basic rationale as *homo economicus*. Many economists refuse to endorse such a theory because they feel there is too much in the life of families that depends on other kinds of behavior. These reluctant economists maintain that it belongs to demographers, sociologists, psychologists and moralists to evaluate the worth of the economics of the family as now understood.

Indeed, at the beginning of his 1991 preface Becker writes 'In this book I develop an economic or rational choice approach to the family. The title does not refer to economic aspects of the family, however, because most non-economists and many economists would interpret the qualifier 'economic' to indicate that the discussion is confined to the material aspects of family life to income and spending patterns.[16] My intent is more ambitious: to analyze marriage, births, divorce, division of labor in households, prestige, an other nonmaterial behavior with the tools and framework developed for material behavior'. A little later he writes: 'Many economists are hostile to this application of [their] approach, whereas increasing numbers of sociologists, anthropologists, lawyers, biologists, psychologists, and historians are using a rational choice approach or related methods to analyze the family'.

I must grant that Becker's arguments have some force, as he insists on the idea that a rational choice approach must recognize the diversity of preferences and the presence of altruism. I agree with the idea that the rationality of human beings goes beyond purely material concerns. Moreover, some

[15] The first publication of Becker on human fertility appeared in 1960. Elaboration of his theory of the family was mainly developed in the 1970s, leading in 1980 to the first publication of his *A Treatise on the Family*. Here references are to the enlarged edition, Harvard University Press, 1991.

[16] Remember for comparison the definition of economics by Marshall, as quoted here in section 2.3.

of the conclusions he derives from his approach make sense and are consonant with observed facts. Nevertheless, along with Marshall, I am reluctant to rank rational choice before emotions, sentiments and spiritual concerns as the major determinant for the positive analysis of behavior in the family. Hence, I prefer to leave other social scientists free to request from us economists what they will find relevant. I note, however, that the economic approach to the family is more palatable than many may believe. Becker for one concludes the last chapter of his *Treatise* with: 'It is remarkable how many state interventions in family decisions appear to contribute to efficiency of family arrangements'.

Actually, during the 1960s and 1970s, there were other cases in which economists succumbed to the temptation of extending the domain of their discipline beyond its earlier borders. For instance Richard Posner used the economic approach for the study of law.[17] In some such cases, however, the narrowly economic posture retroacted on the traditional economic vision of old subjects. I for one was particularly hopeless when witnessing this occurring in public economics. The traditional standpoint was there to assume that civil servants existed in order to serve public interest, in the organization of public services or the conception of public policies. It was all too easy for some economists, first, to note that economic interest of those agents, seen as private persons, was often conflicting with their duty, and second, to argue before any test that therefore civil servants would hardly anywhere abide by their duty.

5. Conceptualization of the Firm

5.1. *The Firm in Theories of General Equilibrium of Prices and Resource Allocation*

In these theories it is common to pose that top management of firms maximize the profit of these firms. The hypothesis much contributes to the hostility, both within and outside economics, against even the concept of equilibrium. Indeed, the hypothesis of profit maximization remains short of giving the full characterization that this paper must provide.

[17] See R. Posner, *Economic Analysis of Law*, 3rd edition, Boston, Little-Brown, 1986.

The best defence of the hypothesis claims that, in market economies, firms which would not maximize their profit would not fare well in competition; they would make losses, hence disappear. The argument is not a foolproof defence, however, because it strictly applies only in general equilibrium and in case of perfect competition. Out of equilibrium and/or under imperfect competition firms will typically exist, which will benefit from rents, whether or not they maximize their profit.

The theory of general economic equilibrium under perfect competition is, however, an unavoidable reference for those economists who want to fully understand the challenges facing conceptualization of the firm. Certainly, this theory leaves much to be desired. Not only for the reason given above, but also because it pictures the firm as something like a computing machine which just determines how inputs have to be transformed into outputs. The fact that identification of the firm tends to be arbitrary in this theory gives evidence of the difficulty of finding a good formalization of the firm. According to the theory of general equilibrium, the level of the productive capacity of the individual firm could be chosen at will. Clearly, such an abstraction leaves too many relevant questions pending. Rather than surveying the whole set of these questions, the following sections will deal with a selection among those most closely connected with economic the conceptualization of agents.

5.2. *The Individual Entrepreneur*

Who is it? How does he or she behave, assuming that no employee, or only a small number of them, is involved? In fact, a person taken at random in the whole labor force has a higher chance to be an entrepreneur if there was or are other entrepreneurs in the family, something which is of great concern for sociologists. But economists pay more attention to two other facts. (i) In order to accept being an entrepreneur you have to be ready to assume risks, hence the number of entrepreneurs in a society will be all the larger as risk-taking will be better regarded and better paid, other things being equal. (ii) Having more people likely to perform as entrepreneurs depends on opportunities for attractive innovations. Economic conceptualization of entrepreneurship reflects these two facts. It has to consider risky undertakings extending over time.[18]

[18] See W. Baumol, ‘Entrepreneurship: productive, unproductive and destructive’, *Journal of Political Economy*, October 1990.

5.3. *The Firm as an Organization*

Large firms in industry or services may be directly viewed as economic agents. But, given the goal of our session, it is most relevant to look for people inside their organization. Before anything else, let us ask the question: why do we see so many large firms, which have a quite different way of operating within their boundaries from what economic theory most often conceived for its representation of the market economy? Why do markets rule some operations between agents, whereas authority rules other operations, those taking place within firms?

Such was the question already discussed by R. Coase in 1937 and later revived, particularly during the last two decades.[19] Full answers will not be given here. But two simple ideas often underlying such answers may be reported. First, it is widely recognized that 'the theory of the firm should move from a production function [toward] a governance structure'.[20] Second, when closely examined, detailed operations within large organizations face important transaction costs and incentive problems, which actually forbid the kind of full decentralization that markets provide in other cases.

One important concern when deciding about a governance structure is the conditions under which the firm will best strike a balance not only between distributing profits (equivalently rents) in the short run and being successful in the long run, but also when allocating its distributions to various 'stakeholders': owners, employees and customers. Actually, these two considerations have to be seen as closely linked, but in terms that business management practice and positive economic theory have difficulty in disentangling.[21]

[19] R. Coase, 'The nature of the firm', *Economica*, November 1937; R. Radner, 'The internal economy of large firms', *Economic Journal*, Supplement,vol. 96, 1986. See also the section 'The scope of the firm: new empirical directions' in *American Economic Review*, May 2001.

[20] O. Williamson, 'Transaction cost economics: how it works; where it is headed', *De Economist*, April 1998.

[21] See for instance: H. Siebert, ed. *Trends in Business Organization: Do Participation and Cooperation Increase Competitiveness?,* Verlag J.C.B. Mohr, Tübingen, 1995; also: M. Faccio, L. Lang and L. Young, 'Dividends and expropriation', *American Economic Review*, March 2001; or: J. Tirole, 'Corporate governance', *Econometrica*, January 2001; or still 'Gouvernement d'entreprise: évolution et aspects éthiques' third part in Association d'économie financière, *Rapport moral de l'argent dans le monde*, 2000, Montchrétien, Paris.

5.4. *Market Structures*

Self-interest is the natural concern of anybody shopping in an impersonal market since there are better opportunities for altruism. But relations often become personal when they are bilateral and long-lived. This is why it is appropriate to briefly look at the important literature concerning market structures. This literature immediately appears as very complex, because there are so many different market structures besides perfect competition and because in most cases, for a given structure, several conceptualizations have been found worth considering. Once again this paper has to be selective.[22]

Monopoly was the first case to have been discussed in economic theory. The appropriate model is essentially simple for this case, as soon as competition between buyers of the output is so high as to appear approximately perfect. But at least dating from the U.S. Sherman act in 1890, developed market economies have used antitrust laws in order to break private monopolies. Thus, now the interesting questions rather concern competition policies, which would take us away from our main theme.[23] From monopoly theory two important lines of research emerged.

Oligopoly theory concerns the case in which perfect competition holds between buyers of a good or service sold by several (typically a few) producers. Dating from the first treatment of the subject by the mathematician A. Cournot in 1838, this theory has been the subject of a long literature, dealing with various conceptualizations, and a field of application of the new school of experimental economics, which cannot be ignored in this paper (see C. Plott, op. cit.).

Bargaining theory generalizes the bilateral monopoly in which one single buyer confronts a single seller. Again there is a variety of models. At one extreme concerning a form of bargaining in the labor market, a case has sometimes been taken as relevant: the wage for an occupation is autonomously decided by a trade union; then employers, holding the 'right to manage', freely decide how many jobs of this occupation to use.

[22] For an introduction to this complex field see F. M. Scherer, *Industrial market structure and economic performance* Houghton Mifflin, Boston, second edition 1980; and C. Plott, 'Industrial organization theory and experimental economics', *Journal of Economic Literature*, December 1982.

[23] See for instance the entries 'antitrust policy' and 'competition policy' in *The New Palgrave Dictionary of Economics*, Macmillan, London, 1987.

6. Recent Reconsiderations

Thanks in particular to substantial contributions from psychologists, increased knowledge of lapses from rationality and of the role of other motivations than self-interest explains why we now see signs of more or less extensive reconsiderations in positive economic theories. Although the process is probably still far from completion, even a rough idea of the stage now reached is worth having.

In order to organize this part we shall be looking at one and the other of two predictions made by Richard Thaler: '*Homo economicus* will begin losing IQ, reversing a 50-year trend' and '*Homo economicus* will become more emotional'.[24] Sections 6.1 and 6.2 will bear on the limits of rationality in actual economic behavior. Section 6.3 will introduce ideas about the role of emotions. Section 6.4 will consider various forms of mutual interactions between agents and suggest how in a number of cases rationality and emotions may combine their effects.

6.1. *Bounded Rationality*[25]

Already in 1950 appeared in economics the phrase of 'bounded rationality', meaning that actual behavior was less sophisticated than theory often assumed. But for many years using the expression was seldom more than recognition of a difficulty. Simultaneously the progress in the fundamental general equilibrium theory, as acknowledged in section 2.4, was *de facto* extending the scope of the assumed rationality to intertemporal behavior, to risk taking, to the formation of expectations, and to the perception of effects of asymmetrical information.

Developments in experimental economics and in psychology during the last three decades brought more constructive knowledge about lapses from rationality. Leaving apart for the moment emotional reactions to be examined later, we have to distinguish on the one hand deliberate decision procedures, which do not conform to full rationality but insure prudent self-controls and, on the other hand, logical errors through more or less consequential oversights of the true features of the decision problem.

[24] R. Thaler, 'From homo economicus to homo sapiens', *Journal of Economic Perspectives*, Winter 2000.

[25] For a serious account of the present state of our knowledge on bounded rationality, read the Nobel lecture of Daniel Kahneman: 'Maps of bounded rationality: psychology for behavioral economics', *American Economic Review*, December 2003.

Typically, deliberate prudent procedures concern people who divide their life and interests into compartments, which they consider in turn, then neglecting part of the real interdependencies between them. Psychologists, who have often observed such behaviors, speak of distinct 'mental accounts'. By the way, such observation provides indirect support to those economists who claim that economic behavior often has an important degree of autonomy with respect to behavior in other spheres of human activity.

As for unconsciously lax behavior, some decisions have been shown to systematically depend on inconsequential variation in the frame within which the problem was perceived, such as the order in which the choice options were presented. Psychologists then speak of 'framing effects' or develop a 'prospect theory'. More interesting and also often more important are the cases in which people, being confronted with a complex problem, rely on intuition for taking their decisions.

6.2. *Intertemporal Choices and Risk-Taking*

Some robust findings about intertemporal choices and risk-taking behavior clearly do not fit into the patterns of rational decisions as they were worked out fifty years ago. These empirical findings lead to see in new perspectives some relations between normative and positive economic theories. Indeed actual agents are often inconsistent in their decisions. Should not public intervention find ways to, at least in part, impose correction of such inconsistencies?

The clearest case in point concerns discounting of the future. Many people today apply a high discount rate in decisions about the close future, 2008 say, but definitely lower rates to what concerns more distant horizons (i.e. what will materialize after 2010, say). From past experience we are sure that, when 2010 will arrive, the same people will be again impatient enough to borrow at high interest rates for the following three years and to claim that they cannot afford saving. This inconsistent behavior, which was ruled out by earlier theories of the consumer, such as utilitarianism, should no longer be ignored in discussions about, for instance, the respective roles of public mandatory pensions and private pensions. Nor can it be ignored in studies of environmental policies.

Observation that households were subject to impatience in their short-term intertemporal choices and awareness that the fact could matter in applied economics, led economists and econometricians to search for more accurate representations of actual choices. Hence, the favor now attached to either 'the hyperbolic consumption model', or to the study of controls that households are imposing on themselves in order to mitigate the damaging effects of their impatience.

6.3. *Emotions*

Focusing on bounded rationality, economists mainly drew, up to recently, from cognitive psychology. But a few of them are now turning their attention to the psychology of emotions and of their impact on behavior. There are good reasons for that. For instance, what is the nature of intuitive reactions of economic agents to the difficult decision problems they are facing? Certainly not often the same as that of the intuitive perception of the likelihood of a logical property as is experienced by a mathematician (the prototype of a rational person). For ordinary people many intuitive reactions reflect, if not always emotions, at least sentiments. Some psychologists think that intuitions appear in the automatic system of the human mind, whereas a second system operates for deliberations, which require time and attention. Intuitive reactions would therefore often be emotional (see Kahneman, op. cit.). Others stress that some emotional capacities are overdeveloped in humans in relation to intelligence. So, emotional behavior would often dominate rational behavior.

Jon Elster convincingly argues that the real challenge is to understand how emotions interact with other motivations such as self-interest, and that moreover there is often a tension between the moves inspired by sentiments and those responding to other motivations. He speaks of a dissonance in a number of examples, which he discusses: guilt, shame, envy, etc.[26]

Elster observes that, for instance, the envy man is not made happy by carrying out his urge to destroy the envied object or its possessor. He would like to see his rival to be made worse off, but not by the result of his action. If that does not happen, he will cope with the dissonance between his inaction and his envy. This he will often do by an inner rationalization of his inaction, so as to put the blame for it on someone else or something else. The purpose of Elster in this analysis is to show that there is something truly special in the role of emotions: you cannot simply say that envy enters into the preference system, which you would assume to rule the behavior

[26] J. Elster, 'Emotions and economic theory', *Journal of Economic Literature*, March 1998.

of the man. Such a sentiment as envy differs in this respect from the most frequent forms of altruism.

The list of sentiments to consider in positive economics obviously contains altruism, as well as concerns for fairness, equity or justice. They may all be vehicles for emotions. And let us note that long before the end of the last century such concerns were often taken as significant determinants of economic behavior besides self-interest. For instance, in this respect Solow (*op. cit.*) quotes Marshall.[27]

6.4. *Trust, Reciprocity and Social Norms: How Interests and Sentiments May Combine*

In actual market economies mutual interactions are now recognized as much more important than the abstract models of the market would suggest? Trust in business relations, reciprocity in face-to-face dealings, as well as social norms acting as constraints on individual decisions, are three features now well recognized in positive economics and about which there is a substantial literature.

Business relations are ruled by contracts. But these contracts do not specify what should happen in many cases which are too complex to describe at the time of signing. We economists therefore speak of incomplete contracts. Where mutual trust prevails bona fide arrangements are more or less easily found in order to cope with such contingencies when they occur. And the literature shows that this is frequent and it explains why.[28]

The role of reciprocity is also well substantiated by direct reports of market participants, by observation of behaviors and by laboratory experiments on games with more or less artificial confrontations.[29] Indeed, reciprocity is one of the best established features of human relations, in economic matters as in others. Note that, discussing the behavioral approach

[27] On this point, which will not be developed here, see also G. Akerlof, 'Labor contracts as partial gift exchanges', *Quarterly Journal of Economics*, November 1982; D. Kahneman, J Knetsch and R. Thaler, 'Fairness as a constraint on profit seeking', *American Economic Review*, September 1986.

[28] See B. Nooteboom, *Trust: forms, formulations, functions, failures and figures*, Cheltenham, Edward Elgar, 2002, and *Interfirm collaboration, learning and networks: an integrated approach*, London, Routledge, 2004.

[29] See E. Fehr and S. Gächter, 'Fairness and retaliation: the economics of reciprocity', *Journal of Economic Perspectives*, Summer 2000.

to economics, Kahneman writes: 'The clearest progress has occurred in correcting and elaborating the assumption of selfishness, and the progress has come entirely from developments in economics, where the invention of the ultimatum game[30] had a great impact'.[31] The concept of reciprocity and its manifestations are sufficiently rich to now make many developments granted.[32]

Social norms impose rules of conducts that constrain the behavior of economic agents. On close examination they share with reciprocity and trust the two following features: to have ethical value, but often to be also conform to mutual interest of those concerned.[33] This point will not be developed here, but it is part of the environment within which the positive theory of economic behavior has to be reconsidered.

7. Conclusion and Prospect

The attempt in this paper was to persuade the reader that current conceptualizations of economic agents have a fair degree of realism and that their uses in positive economic theory are most often sensible. It was also to show that my profession was not dogmatic about its conceptualizations and was ready to recognize their deficiencies. How far will this recognition be fundamentally changing our analytical methodology? It will belong to younger generations of theorists to answer the question.

The majority of us, who now welcome the reconsideration, will also issue a serious warning: embodying, systematically and everywhere, more realistic hypotheses is likely to be very costly because it spontaneously seems

[30] In this game a given sum of money is available, 100 euros say. The first player has to propose a sharing of the sum between himself and the second player, for instance (50-50) or (90-10). The second player has to say whether he accepts or not the proposal. If he rejects the offer, no money will be given to either of the two. In this game the first player has a strategic advantage: if the second player rationally maximizes his gain, he will accept the proposal (90-10). Experiments have repeatedly shown that most people in this situation have enough self-respect for rejecting the offer.

[31] See D. Kahneman, 'A psychological perspective on economics', *American Economic Review*, May 2003, p.162.

[32] See S. Kolm, 'Introduction' in *Handbook on the Economics of Altruism, Giving and Reciprocity*.

[33] See J. Elster, 'Social norms and economic theory', *Journal of Economic Perspectives*, Fall 1989.

to lead to more complex models and more grim mathematics. Calling to witness three of those who now are at the forefront, I am quoting :

> Amartya Sen – 'It will not be an easy task to find replacement for the standard assumptions of rational behaviour – and related to it of actual behaviour – that can be found in the traditional economic literature, both because the identified deficiencies have been seen as calling to rather divergent remedies, and also because there is little hope of finding an alternative assumption structure that will be as simple and usable as the traditional asumptions of self-interest maximization, or of consistency of choice'.[34]
>
> Richard Thaler – 'Behavioral models are harder than traditional models. Building models of rational, unemotional agents is easier than building models of quasi-rational emotional humans' (op. cit., page 140).
>
> Daniel Kahneman – 'The model of the agent that has been presented here ... may be more difficult to translate into the theoretical language of economics ... The central characteristic of agents is not that they reason poorly but that they often act intuitively. And the behavior of these agents is not guided by what they are able to compute, but by what they happen to see at a given moment' (Kahneman, December 2003, *op. cit.*, page 1469).

A different kind of prospect is given by Vernon Smith, an economist who specialized in experimental economics, focusing his experiments on bargaining and market behavior. He received in 2002 the Nobel prize jointly with Kahneman.[35] In order to oppose an alternative concept to the 'constructivist' rationality now common in economics, V. Smith writes: 'Ecological rationality uses reason – rational reconstruction – to examine individual behavior ... ; to understand the emergent [social] order in human cultures; to discover the possible intelligence embodied in the rules, norms and institutions of our cultural and biological heritage that are created by human interactions but not by deliberate human design' (page 470). With the concept of a non-deliberate order V. Smith reminds us of what was written by Adam Smith and by some older predecessors, as well by Friedrich Hayek in post-world war II. The grandiose research program of Smith,

[34] 'Rational behaviour', entry in *The New Palgrave Dictionary of Economics*, Macmillan, 1987.

[35] His Nobel lecture was published in the *American Economic Review*, June 2003, with the title 'Constructivist and ecological rationality in economics'.

extending much beyond the present domain of my discipline, is certainly fascinating. But I doubt whether it will be able to generate a wholly different methodology for economics itself.

In any case, positive economic theory never limited its scope to building a single, unified, all-purpose fundamental model. On the contrary it has long been used to live with a multiplicity of basic formalizations, each one being appropriate for a particular range of phenomena. Embodying in this theoretical environment the recent reconsiderations may be difficult in some cases, but raises no objection in principle.