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Public choice with unequally rational individuals

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Public Choice with Unequally Rational Individuals

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Abstract: As governments lack the rationality-promoting selective pressures of market competition, the standard (unbounded) rationality assumption is less legitimate in Public Choice than in analysis of markets. This paper argues that many Public Choice problems require recognizing that human rationality has bounds, that these differ across individuals, and that rationality must therefore be treated as a special scarce resource, tied to individuals and used for deciding on its own uses. This complicates resource-allocation in society, which has to rely on institutionally shaped selection processes. But this also appears to be the only way to produce the long-missing analytical support to the first head of J.S. Mill's criticism of government, of which Public Choice has so far supported only the second.

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"The positive evils and dangers of the representative, as of every other form of government, may be reduced to two heads: first, general ignorance and incapacity, or, to speak more moderately, insufficient mental qualifications, in the controlling body; secondly, the danger of its being under the influence of interests not identical with the general welfare of the community." (J. S. Mill, 1861/1972)[1]

1 Modifying the Hard Core of Public Choice Analysis: How and Why

In his account of the origins and development of the Public Choice research program, Professor Buchanan summarizes its hard core in three presuppositions: (1) methodological individualism, (2) rational choice, and (3) politics-as-exchange (Buchanan, 2003). This paper argues that for many Public Choice problems it is necessary to modify two of them: to replace (2) by recognizing that human rationality is bounded in individually unequal ways, and to enlarge (3) by including politics-as-selection.

This argument builds on my more general inquiry into economic problems of unequally bounded rationality (Pelikan, 2006), which can be seen to depart from the standard rational choice assumption in three decreasingly usual steps. First, as is now quite usual, human rationality is recognized to have bounds, but without considering their individual differences. Second, as is less usual but no longer very novel, the rationality of some individuals is recognized to be bounded more, or differently, than the rationality of others. Most novel appears to be the third step, which shows that such unequally bounded rationality must be treated as a scarce resource, but of a highly special kind: much like human capital, it is tied to individuals, but unlike any other scarce resource, it must be used for deciding on its own uses. This complicates the logical structure of the resource-allocation problem by a "tangled hierarchy" (Hofstadter, 1979), which excludes straightforward optimization, but requires, for its solution, institutionally shaped selection (evolutionary) process

There appear to be three good reasons why all these steps should also be taken in Public Choice analysis, at least for those problems whose solutions may significantly depend on the rationality bounds of the individuals involved. One concerns the legitimacy of the

[1] I thank for this reference to Niclas Berggren.

assumptions on which theories are built. While the perfect (unbounded) rationality assumption is now abandoned in an increasing number of economic theories, many other theories can still defend it as a reasonable working hypothesis by referring to the selective pressures of market competition. As this can be shown to have rationality-promoting evolutionary effects, it is possible to argue that *in the long run*, the rationality of all the still present participants *of a well-developed and reasonably competitive market* may indeed be expected reasonably close to the assumed perfection.[2]

As the emphasized words imply, however, the validity of this defense is severely limited. Namely, it is not valid for emerging markets, whose selective pressures have not yet had enough time to demote all the little rational entrepreneurs who are typically also trying there their chance, nor for the government sector, where market competition is entirely absent, replaced by voting, political selection, and administrative decisions. It is the second limitation that prevents Public Choice analysis from using this defense. Thus, to be reasonable, this analysis cannot but admit that far from perfectly rational, political agents may suffer from a broad variety of rationality bounds, and then add to its tasks the study of politics-as-selection, to see what these bounds will likely be.

The second reason concerns possible explanations of observed outcomes. Namely, far from all the social losses caused by inefficient government policies appear possible to explain by the rent-seeking of perfectly rational, but selfishly motivated policy-makers. In many cases, it is clearly in their most selfish interest to make their policies succeed. Then, if even such policies fail, there is hardly anything else to blame than the rationality bounds of their makers. In folk wisdom, harm can be caused not only by bad intentions, but also by incompetence – which a suitable definition of "rationality" (see below) makes possible to express in terms of rationality bounds.

A nice illustration is the above-quoted criticism of government by J.S. Mill. Existing Public Choice analysis provides a solid support for the second head, but, as long as it assumes that all individuals are perfectly rational, it cannot do the same for the first. This assumption makes it indeed hard for any analysis to explain why government should have lower "mental qualifications" for economic decision-making than market participants – although corroborating empirical evidence appears far from missing.

The third reason is diplomatic, concerning the ways in which theorists can communicate with policy-makers and thus influence actual policies. That such

[2] The best known formulations of this argument are due to Alchian (1950), Friedman (1953) and Winter (1971).

communication is essential for any practical application of theoretical results – even if they recommend limitations of government policies – may be useful to emphasize: to limit policies also requires policies, and such policy-limiting policies require that some policy-makers be persuaded to conduct them. Starting with problems of relevant rationality, rather than incentives, makes it possible initially to accord the policy-makers the benefit of the doubt that they do have the best intentions to serve common good. The communication can then be more friendly, and therefore also more effective, than if the theorists immediately assume them to be just selfish rent-seekers. They can be friendly warned that even with the best intentions, they are still likely to cause important social losses, if they try to do things for which they are unlikely to be sufficiently qualified. The litmus test of their intentions then is, whether or not they voluntarily abstain from doing such things.

Note that all these modifications of Public Choice analysis are less radical than they may seem to be. They do not diminish the importance of incentives and rent-seeking, only add that unequally bounded rationality may also matter. They do not even imply that it always does: for sufficiently simple policy issues, where all the policy alternatives with all the relevant consequences are easy to see, the perfect rationality assumption still can, and indeed should, be used. It is only for more difficult policy issues – but which appear to be far more frequent in the real-world – that the rationality bounds of the individuals involved, including the policy-makers, the market participants, and the citizenry at large, are necessary to consider. Moreover, the results of the modified analysis do not radically depart from the existing ones: as will become clear, the two will mostly complement, and only in some cases qualify, each other.

The rest of the paper is organized as follows. Section 2 defines the present meaning of "rationality," assumes (recognizes) its individually unequal bounds, and explains its role as a special scarce resource. To provide a useful point of reference, Section 3 summarizes how, and with what expected results, rationality is allocated by competitive markets. Section 4 enters the area of Public Choice by examining how, and with what expected results, rationality can be allocated by politics-as-selection. Section 5 concludes with a few policy implications.

2 Unequally bounded rationality as a scarce resource

The ways in which economists define rationality fall into two classes: the purely formal, or tautological ones, and the empirically meaningful ones, which link rationality to actual

cognitive abilities (competencies, "intelligence") of human brains As only the latter allow rationality bounds to be brought to light, the present definition must be of this class.[3]

DEFINITION 1. "Rationality" means the cognitive abilities of human brains for solving economic problems – that is, problems of how best to use given resources under given constraints for the pursuit of given objectives (preferences, objective function). It can exist in different varieties, relevant to different types of economic problems – e.g., involving different types of resources, different time horizons, or different degrees of risk or uncertainty. An individual's rationality is bounded if there are economic problems for which he or she is unable to find an optimal solution.[4] For the sake of brevity, an individual whose rationality relevant to a certain type of economic problems is less bounded than the relevant rationality of another individual will be said to be, for these problems, "more rational," and his rationality to be "higher."

Why the purely formal definitions of rationality are unsuitable for Public Choice analysis, and indeed for all economic problems involving more than one person, should be realized. As their aim is to defend the perfect rationality assumption even for an individual blatantly unable to find the right solutions to his economic problems, they include among the constraints of these problems also those on his or her problem-solving abilities (see, e.g., Boland, 1981). Everyone can then indeed be said to be "perfectly rational" in the tautological sense of doing *his* or *her* best, however severe those constraints might be. But to say so may be harmless only for one-person problems. When several individuals are involved – as always in Public Choice – everyone can of course still be said to do his or her best, but this obscures the crucial fact that for the same objective function, the "best" of some individuals may be much better, or much worse, than the "best" of others.[5]

The present definition of rationality includes only a subset of all the human cognitive

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[3] The two classes correspond to the distinction between the non-refutable rationality principle and refutable rationality hypotheses used by Vanberg (2004).

[4] As bounded rationality is sometimes confused with imperfect information about the state of the world, note that the two are here sharply distinguished: rationality only means the personal cognitive abilities to find, understand and use such information, but not the information itself. It is in how astutely the same imperfect information is exploited that some of the most important rationality differences come to light.

[5] A recent variant of this defense is in Eggertsson (2005), who makes it possible to say that all individuals are perfectly rational by admitting imperfections in their mental models. Whether or not an individual with grossly mistaken ideas about the consequences of his actions can be declared perfectly rational may perhaps be a matter of taste, but doing so makes the notion of rationality completely meaningless.

abilities that may be considered part of human rationality in a more general sense. To economists, however, it is this subset that matters most. It has been in the center of their rationality debate, and it also plays a very special role in their theories. Most of their theories need to assume that at least some of these abilities are perfect (unbounded) – including the theories of procedural rationality and rational irrationality. While these theories admit bounded rationality for certain low-level economic problems, they assume perfect rationality for the higher-level economic problem of how best to use the bounded rationality for these lower-level problems. In contrast, no such perfection is assumed here.

ASSUMPTION 1. Rationality of all varieties and all levels is both bounded and individually unequal.

Unequally bounded rationality raises the problem of its measuring. In principle, it could be measured by marking, in the entire set of the differently difficult problems that the agents of an economy might encounter, the subset of the sufficiently easy ones for which a given individual is able to find an optimal solution; or by estimating, for different problems of the entire set, the relative losses caused by the errors that the individual would likely commit if assigned to the task of solving them.

In practice, however, its measuring is limited to artificial experiments, intelligence tests, and problems in economic textbooks, which cannot yield more that rough and often insufficient indications. For many real-world economic problems, especially the most complex ones, the relevant rationality cannot be objectively measured at all. It can only be subjectively estimated, with the risk of committing more or less large errors, on which, in a first approximation, it is reasonable to assume the following.

ASSUMPTION 2: The errors with which an individual's rationality is estimated depend on the rationality of the estimating individual: the more bounded this rationality, the larger the errors will likely be.

Importantly, this also includes the cases when individuals estimate their own rationality: those suffering from severe rationality bounds are likely to commit large errors also in such estimations, as they are typically unaware of how severe these bounds really are.[6]

[6] In addition to casual observations of (and frequent irritation with) such individuals during personal encounters, their existence is now solidly documented in experimental psychology by Kruger and Dunning (1999), in their

What complicates the issue, and may seem to weaken the two assumptions, is that an individual's rationality also depends on learning from education and experience, and may therefore vary, and hopefully improve, over time. Let me therefore make it clear that no such weakening takes place. As explained in more detail in Pelikan (2006), Assumption 1 remains in full force simply because all learning is conditioned and constrained by pre-existing learning abilities (talents), which also differ across individuals. An interesting implication is that in equally rich learning environments, rationality inequalities are likely to grow, rather than shrink. Assumption 2 is clearly strengthened: talents often matter more, but are also more difficult to estimate, than actual rationality: recognizing talents requires indeed talents.

Recognizing that rationality has individually unequal bounds implies including it among scarce resources: individuals possess it in different quantities and qualities, and both their personal achievements and the performance of the entire economy depend on its uses. But being both a scarce resource and the abilities needed for deciding on the uses of scarce resources implies that it is needed for deciding on its own uses. This causes a logical knot – in Hofstadter's (1979) terms, "tangled hierarchy" – with disturbing effects on several economic theories.[7]

For present purposes, the most important are the effects on standard resource-allocation theory. In addition to conflicting with its perfect rationality assumption, admitting unequally bounded rationality destroys the conceptual barrier between the sphere of agents and the sphere of resources, which the theory needs to separate rationality from scarcity. It needs the agents to keep their initially given positions, where they use their assumedly abundant rationality for conducting economic calculus and deciding on the allocation of the scarce resources, while the resources move around and are allocated to different uses as a result of the agents' decisions. Intuitively, one may think of the difference between the players of a game of cards and the cards. The theory needs this barrier to proceed in an orderly fashion from the decisions of agents to the allocation of resources.

But now, rationality spreads into the sphere of scarce resources, where its differently bounded individual endowments pose the problem of their allocation to efficient uses, while scarcity spreads into the sphere of agents, as agents endowed with differently bounded rationality are differently scarce, and may not therefore be able to keep their positions.

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wittily titled article "Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessment." This evidence devalues all the standard models of allocation of abilities, including talents, that stand and fall with the assumption that all agents perfectly know the abilities of themselves.

[7] The problem with this tangled hierarchy appears to be a kin of the Russel Paradox and the Gödel Theorem, but clarifying this kinship is not easy and cannot be attempted here.

Rationality allocation may have to move them to different uses, much like any other scarce resource. In the intuitive comparison with a game of cards, this is as if the players became themselves cards of different values and were included among the cards with which they play.

The problem of resource-allocation must therefore be enlarged by the one of rationality-allocation, and the traditional allocation processes by evolutionary selection processes, during which differently rational agents are promoted to, or demoted from, differently important and differently difficult positions (jobs, decision tasks). The main questions then are: How do such processes unfold? To what outcomes they tend to arrive? On what factors do their unfolding and outcomes depend?

As shown in Pelikan (2006), the main factors are the prevailing institutions in the modern sense of rules of the game (North, 1990). This ranges rationality-allocation among the problems of new institutional economics, but with questions that this economics has not yet properly addressed. While NIE has mainly been concerned with the static effects of institutions on incentives, and in particular transaction costs, it is now demanded to clarify their evolutionary effects on the selection processes of rationality-allocation.

3 Rationality-allocation by competitive markets: a summary

The first steps to understanding how rationality is allocated by competitive markets can be seen in the above-mentioned references to Alchian (1950), Friedman (1953), and Winter (1971). What these works have found is, in essence, that market competition has rationality-promoting selection effects, which in the long run will make the behavior of the still successful ("surviving") competitors on a product market to converge to the highest rationality available. But these findings are limited in two ways: they only concern a long-run evolutionary equilibrium, and only on product markets.

My attempts to overcome these limitations are in Pelikan (2006). The rationality-allocation by competitive markets is there examined for its evolution over time, starting from an inefficient initial state; and attention is extended to financial markets, considered to select investors according to how successful they are in selecting future successful producers.

My main findings can be summarized as follows. Concerning time, the evolution is found to be possibly very slow, and if the initial state is inefficient enough, its beginning may moreover be very bad. The initial losses of little rational entrepreneurs and investors may exceed the gains of their more rational competitors, so that the entire market economy may start by shrinking rather than growing. It is only gradually, as the former are losing the

possibilities to cause more losses and the latter are increasing their potential to create wealth, that this negative trend will be reversed. Note that this can explain why the growth of virtually all new market economies followed the well-known J-curve, and thus also why it was wrong to oppose market reforms because of their initially bad results.

Concerning financial markets, they are found to be important not only as mechanisms allocating investment, but moreover as evolutionary devices selecting investors. But, to select investors for relevant rationality, rather than dishonesty, it is necessary to protect and shape these markets by a suitable mixture of formal and informal institutions, including an efficient legal framework, fair business practices reposing on reputation effects, and a culture with a high level of trust. Financial markets can then substantially improve the rationality-allocation by product markets by shortening the time needed for the discovery and selection of the relatively most rational producers, supported by the relatively most rational investors.

Assuming that much like any other human abilities, the relevant rationality for enterprising and investing is distributed normally, then the most rational producers and investors must be expected to form only a small minority of "industrial champions" in the upper tail of such a distribution. The main merit of rationality-allocation by market competition is that, sooner or later and under some reasonably realistic conditions, it can find this small minority and promote at least some of its members to the positions of the most important producers and investors, while incessantly demoting from these positions all those whose relevant rationality never was, or no longer is, of such an exceptionally high level. Intuitively, competitive markets can thus be compared to tournaments in sports, each of which can find the actual top champions in its specific sport, who could hardly be found in any other way, including tournaments in unrelated sports.

4 Rationality-allocation by politics-as-selection

While all these advantages and weaknesses of market rationality-allocation are important to keep in mind, the main task of Public Choice analysts is to understand how rationality is allocated by, and within, governments. The key feature of this allocation is that its highest level, including the selection of last resort, must consist of personal choices, such as voting and appointments. To be sure, personal choices also take place in the market sector – in particular between investors and entrepreneurs, and within firms. But the highest level belongs there to market selection, which ultimately sanctions both investors and firms if their personal choices lack rationality.

The basis of rationality-allocation by personal choices is the relationship between the rationality of the individuals who choose and the rationality of the ones who are chosen. Assumption 2 provides the first clue: the more bounded the rationality of the former, the larger errors they will likely commit in estimating the rationality of the latter, so that this will also be, in average, more bounded. This assumption appears possible and plausible to sharpen as follows:

RECOGNIZING-RATIONALITY-BY-RATIONALITY (RRR) ASSUMPTION. When estimating the rationality of others, individuals safely recognize, and can therefore avoid choosing, all those whose rationality is lower than theirs, but are unable fully to appreciate the possibly subtle differences between their rationality and all the higher rationality, and may moreover have irrelevant prejudices that make them underestimate the rationality of a more or less large subset of such equally or more rational individuals. They may count in this subset themselves, if their prejudices include an inferiority complex.[8]

This assumption has the following implication:

THE RATIONALITY-BOOSTING-BY-VOTING (RBV) PRINCIPLE. Consider a set of voters and a set of candidates from which the voters are electing a subset. If the rationality distribution is the same over both sets, if each voter has an equal number of votes, and if it is rational for the voters to vote for the most rational candidates, then the average rationality of the elected candidates will somewhat exceed the average rationality of the voters.[9]

The proof is trivial. In the worst case, the least rational voters vote irrelevantly (randomly), and will thus in average vote for candidates of the average rationality. But the more rational the voters, the more their voting will be biased in favour of above-the-average-rational candidates. When all the votes are counted, the average rationality of the elected

[8] While Assumption 2 is hardly controversial, details of RRR-Assumption may be. But virtually all of the colleagues and students who judged this assumption found it plausible. Moreover, even if some of its details had to be softened, the results of the following analysis would be little affected.

[9] A frequent objection against the RBV-Principle has been that people often vote not for the most rational candidates, but for candidates with all kinds of other, less relevant properties. But, provided that in the given voting, it is rational for the voters to vote for the most rational candidates, then using other criteria is only a sign of their own low rationality, which leaves the principle intact. Professor Mueller pointed to me that the principle is a kin of the Condorcet Jury theorem (Mueller, 2003), although not very close: while the theorem also assumes bounded rationality, as it expects all voters to make mistakes, this is equally bounded rationality, as it assumes the probability of doing so to be the same for everyone.

candidates will therefore be somewhat higher than the average rationality of the voters.

Note that rationality analysis is thus more optimistic about democracy than Hayek (1944), who accused it of selecting the worst. But this optimism is subject to two qualifications. First, the rationality distribution over the candidates might be inferior to the one over the electorate, so that the elected candidates would be, in average, only somewhat more rational than the other candidates, but not necessarily the voters. Second – and this involves links to more traditional Public Choice arguments, on which more below – the candidates might be just ruthless rent-seekers, so that the most rational ones would indeed be the worst.

But even in the most ideal case, where both the voters and the candidates have the best imaginable intentions, the rationality boosting by democratic voting is only modest: while far from selecting the worst, it also remains far from selecting the best. Although this case may not be considered very realistic, it is analytically important, for it accords the greatest benefit of the doubt to governments as to their good intentions. The rationality bounds from which governments are then found to suffer can be used for showing that even the most benevolent of them, not to cause more harm then good, must abstain from a wide range of complex policies, of which national planning is only one extreme example.

A rather obvious way of improving the outcomes of voting is allowing more rational voters to cast more votes than less rational ones. But how can such a favorable redistribution of voting power be realized?

For government, the only admissible way is to do more of the same – that is, employ more levels of voting or personal appointing, where the elected/appointed candidates of one level become the voters/appointers of the next level. For example, the democratically elected MPs may elect a committee, which selects a sub-committee, which appoints a group of experts. The merit of this way is that at each level, the average rationality of the elected/appointed candidates benefits, in average, from a little extra boost. But this way cannot lead very far. As each of the boosts is only modest, then even in the ideal case, where all the individuals involved have the best imaginable intentions, the average rationality of the ultimately elected/appointed candidates, although increasingly lifted above the population average, will still remain, for any reasonable number of levels, far from the best.

That the levels cannot reasonably be very many follows in part from the rising administrative costs and communication problems that each extra level is bound to cause. But the most severe constraint appears in the more realistic cases in which each level raises the principal-agent problems of asymmetric information, incentives and rent-seeking, thus causing considerable agency losses. A relatively few levels then may then suffice for making

these losses exceed whatever gains the marginally improved rationality of government agents might be able to realize.

Additional insights can be obtained by comparing government with the market sector. As noted, this sector may also involve personal choices, and these may also build multilevel hierarchies – which, superficially, may appear similar to the government ones. But there are two fundamental differences. At the highest level, market selection can discover and eliminate wasteful hierarchies both harder and faster than political decisions. At the lowest level – if we view the choices of entrepreneurs by investors as cases of voting – market selection automatically tends, be it only probabilistically, to redistribute voting power from less rational investors to more rational ones. Political democracy, in contrast, must allow all voters to keep an equal number of votes, regardless of how rationally or irrationally they vote.

5 Policy Implications

Returning to the first head of J.S. Mill's criticism of government, the present analysis thus provides it with the long-missing theoretical support, and moreover roughly indicates how high (or low) government's "mental qualifications" for economic decision-making are likely to be: far from both the worst and the best – and in the politically ideal case slightly above the average – of the rationality distribution over the entire population.

The search for the policy implications of this finding appears necessary to divide into two branches: one for the economy's production side and one for its final consumption side. The reason is that the two sides substantially differ in the ways in which they may allow rationality-allocation to work, and in their dependence on value judgments.

The final consumption side is constrained by the requirement that all individuals, regardless of their rationality differences, not to starve to death, keep their positions of final consumers. This excludes (at least in civilized societies) evolutionary selection by which little rational individuals would purposefully be eliminated. The working of rationality-allocation is consequently limited to individual learning of given consumers under the constraints of their unequal learning talents.

On the production side, in contrast, rationality-allocation can work much more freely: a great variety of differently difficult positions can be there designed and redesigned or abolished, including the births and deaths of entire firms, and the differently rational individuals can be promoted to, or demoted from, all of them, without having to die. Provided that market competition is maintained in a reasonably good shape by a suitable

combination of formal and informal institutions, rationality-allocation can be expected, as indicated in Section 3 above, to converge to matching the most difficult and for the economy most important positions with some of the relatively very few most relevantly rational individuals – the "industrial champions."

Concerning value judgments, the crucial difference is that virtually all of them can be concentrated on the final consumption side, so that the policy implications for the production side can be made largely value-free. All that needs to be done is to make the formulation of the final demand *complete*, putting there all that the final consumers might individually and collectively demand from production – including demands for job creation, working conditions, and nature protection. The production sector can then be seen to have the value-free task of most efficiently using the scarce resources available, including rationality, for meeting such a complete final demand, whatever this might be.

The policy implications for the production side are then quite clear-cut. From the finding that the relevant rationality of government-selected agents is substantially inferior to the one of the market-selected industrial champions, it is possible to deduce several limitations of the scope of potentially beneficial government policies, which are increasingly respected in practice, but still poorly supported in theory – such as excluding selective industrial policies and government ownership of firms.

That these limitations are more severe than those implied by standard analysis, which assumes equally perfect rationality of everyone, including governments, is hardly surprising. More interestingly, these limitations are also more severe than the one implied by Hayek's (1945) knowledge argument. While this excludes from government agenda only the most difficult tasks than *no* single human mind can master – with the main example of national planning – the present limitations moreover exclude many less difficult tasks that *some* human minds are able to master, but these minds are so scarce that a lasting market selection is needed to find them and, equally importantly, keep them in such difficult and important tasks only as long as they continue to possess this scarce ability.

The example of ownership of firms is particularly instructive. As so many managers appointed by private owners can acquire and effectively use all the needed knowledge for making even very large firms innovative and successful, the question has been, what could hinder the managers of comparably large government-owned firms from doing the same? Already Schumpeter (1942/1976) answered “nothing,” and neither Hayek, nor any other theory has so far proven the opposite – in spite of the extensive empirical evidence that in average, government firms perform far less well than comparable private firms.

Concerning the final consumption side, the policy implications of rationality-allocation analysis are there much less clear. The search for them is complicated by two circumstances: (1) the rationality of many consumers – in the politically ideal case a majority – is even more modest than that of government; (2) much depends on several levels of value judgments – including those that concern the contents of final consumption, both of oneself and, depending on the subjectively perceived and valued spillover effects, of others; and those that concern the form of the political process for settling possible individual differences in different value judgments.

The basic policy question can then be put as follows: In which ways, if any, could a politically selected government, given its relatively modest rationality, help the very differently rational consumers to increase their well-being above the level that they could attain by their individual consumer choices and learning?

Perhaps the clearest part of the answer concerns public goods. The demand for them can be seen to depend, in agreement with standard views, on the prevailing values of the electorate expressed through the prevailing political process, and, in agreement with Public Choice theories, on the rent-seeking of government agents, by whom this demand will likely be deformed and exaggerated. Rationality-allocation analysis only adds that this demand will not be perfectly rational, neither for the electorate, nor for the government agents themselves. For some public goods, however, even an exaggerated, distorted and imperfectly rational government financed demand may be preferred, according to the prevailing value judgments, to a sum of individual demands. But rationality-allocation analysis then also brings an additional support to the well-known argument that whatever the demand for public goods might be, government should only formulate it and finance it, but abstain from organizing and managing the production for meeting it.

Least clear is in which ways, if any, a moderately rational government could paternalistically help the differently rational consumers to improve their private demand, in terms of their own preferences. True, a democratically elected government has been found to have the rationality potential for helping many less rational consumers with certain challenging choices, and thus increase their own well-being, or the well-being of those of their fellow citizens who would feel harmed by spillovers of their little-rational consumption, or both. But three questions remain open, both for analysis and for value judgments: (1) How much of this potential would actually be used in the interests of the consumers, and how much in the interests of some rent-seeing government agents? (2) What losses of individual freedom and personal integrity would such paternalistic help entail? (3) What are the terms of

the trade-off between these losses and the consumption improvements achieved?

These questions cannot be answered here, in part because of the lack of space, but also because I am far from knowing their answers myself. I can thus only offer a few not very systematic notes. Question (1) is clearly a matter for traditional Public Choice analysis. Much of its answer depends on the possibilities of the electorate to monitor government agents – such as the transparency of democracy and the freedom of media – by which their rent-seeking could be, if not eliminated, at least kept within reasonable limits, so that at least some of the paternalistic policies could effectively help at least some of the consumers.

The answer to question (2) largely depends on the form of the policies. Perhaps the lowest freedom and integrity losses are caused by government help with the inputs for individual learning, which institutes the rights of consumers to be informed and the duties of firms and/or government agencies to supply them with the corresponding information – e.g., about the contents and health effects of food and other consumer goods.

In most societies, however, some paternalistic policies may command an overwhelming democratic support, in spite of the high losses of freedom and integrity that they may cause. The least controversial example appears to be obligatory primary education, which may be seen to help, but at the same time encroach on the freedom and integrity of those individuals who are so little rational that they would otherwise not rationally care for the education of their children. More controversial examples are obligatory health insurance and retirement plans.

The key to all these examples is the trade-off of question (3). This perhaps most importantly depends on the prevailing value of compassion and the spillover effects of consumption. As long as little-rational consumers hurt only themselves, whether or not to help them by paternalistic policies strongly depends on the former. But, if their little-rational consumption has strong spillover effects that also hurt others – and what constitutes such effects depends on the preferences and values of these others – the democratic support for paternalistic policies is likely to grow, and even non-negligible losses of freedom and integrity are likely to be tolerated. A problem is that the value judgments involved may significantly differ between cultures and between countries – for instance, important differences of this kind appear to exist even between otherwise so close Europe and the USA.

All this relates to the recent debate on paternalism under the condition of bounded rationality between Thaler and Sunstein (2003) and Glaeser (2005). Whereas the former argued that bounded rationality justifies a mild, "libertarian" form of paternalism, the latter objected that even if individuals are only boundedly rational, they still have better knowledge

and incentives to take care of their consumption than boundedly rational government agents. From the present point of view, both these arguments oversimplify the issue by more or less implicitly assuming *equally* bounded rationality. The recognition of rationality inequalities, found to imply that the rationality of government agents, in spite of being far from the best, is nevertheless superior to the rationality of a large number of consumers, adds support to the case of paternalism. But this does not entirely refutes Glaeser's argument. By admitting that question (1) remains open, the present argument also admits that under some conditions – e.g., poorly working democracy and high level of rent-seeking (corruption) – the rationality superiority of government may even decrease, rather than increase, the chances that paternalistic policies might serve the interests of the less-rational consumers. But another open question then is, how much, in the absence of paternalistic policies, could such consumers suffer from the rent-seeking by ruthless private producers, who might exploit their low rationality in many ways – including false advertising and marketing of little effective, or even harmful products. Here, however, the open questions may only be noted, while the search for their answers must be left to another occasion.

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