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Economic policy making in evolutionary perspective*

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Abstract. Economic policy making is discussed from three different angles: the political economy of actual policy making ("what policy does do"), the analysis of policy instruments for given ends ("what policy could do"), and the debate on policy goals and their legitimization ("what policy ought to do"). Center stage in the evolutionary perspective is new, positive and normative knowledge which is unfolding during the policy making process and in its aftermath. It is argued that this implies regularities and constraints which extend and modify the comparative-static interpretations of public choice theory, economic policy making theory, and social philosophy.

Key words: Evolutionary economics – Economic policy making – Policy advice – Policy goals – Public choice theory – Regulation

JEL Classification: A11, B41, D72, D78, E61, L50

1 Introduction

Evolutionary economics has been able to establish itself as a distinct research program which can claim to offer new insights in many fields of economics (cf., e.g., Nelson, 1995; Witt, 2001a; Cantner and Hanusch, 2002). However, what has so far only rarely been addressed as an own object of theoretical reflections in evolutionary economics is the theory of economic policy making. In part this neglect may be due to a rather controversial assessment of the effectiveness of policy interventions (cf., e.g., such diverse statements as those in Hayek, 1978a; Gerybadze, 1992;

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Metcalfe, 1994; Pelikan, 2003). Yet policy interventions are so pervasive in all modern economies that they cannot be ignored. In order to come to terms with this fact and to develop a foundation for an evolutionary theory of economic policy making, it is useful to distinguish between three different angles from which policy making can be scientifically approached. The first is the explanatory approach to the political economy of actual policy making epitomized by the question "what does economic policy making do?" The second angle is that of theoretical reflections on instrumental policy options characterized by the question "what could economic policy making do?" The third angle is that of a normative debate on political goals and their legitimization expressed by the question "what ought economic policy making do?"

Each of the questions alludes to a different level of the theory of economic policy making. Each of the different levels represents an own field of vast research: political economy and public choice, applied, or instrumental, economic theorizing, and normative social philosophy. What new insights can an evolutionary perspective contribute to the ongoing research in those fields? Where and why can it be expected to make a difference compared to established views? The present paper tries to outline an answer to these questions. As will turn out, the evolutionary approach is *not* likely to imply an entirely new political economy, nor is it likely to furnish the policy maker with *specific* new instruments or normative foundations. Instead, it will be claimed that what is really different is the framing of the policy problems. In an evolutionary perspective, during the process of policy making, and in its aftermath, the positive and normative knowledge that informs the actions of the agents involved can change through experience and induced inventive learning. Accordingly, at each of the different levels of the theory of economic policy making the time horizon in tracking causes and effects and in assessing means-ends relationships needs to be extended to account for the repercussions of the changes induced in the agents' knowledge constraints.

To substantiate these claims the paper offers a discussion of some insights that can be derived from approaching each of the three different levels from an evolutionary perspective. Section 2 inquires into economic policy making from the angle of public choice theory or, more generally, political economy. Section 3 then turns to instrumental policy analysis – the hypothetical or practical application of economic theory to achieve given ends – which economists engage in when they derive "policy implications" from their theoretical reflections. It is explained, with the use of an example, why the evolutionary approach appraises the effects of particular policy measures quite differently from the way they are assessed by the usual comparative-static instrumental policy analysis. In Sect. 4 the normative foundations of economic policy making are briefly considered. The argumentation here quickly crosses the borderline between economics and moral philosophy and leads to some philosophical reflections on the implications of evolutionary thought more generally. In each of the sections the focus is on the process of learning about facts on the one hand and values or goals on the other. Since each of the parties involved in, and affected by, policy making is exposed to experience and may have incentives to search for novel action, the analysis must consider the changing

knowledge of both the policy maker(s) and of the agent(s) affected by the policy measures implemented. Section 5 offers the conclusions.

2 Explaining the process of policy making

A first way of dealing with economic policy making involves the question of *what economic policy making actually does*. This means that the approach of the theory of economic policy making is descriptive and explanatory. The intention of research done here is to record the actual activities of policy makers and to explain why and how they are carried out. Since Schumpeter's theory of democracy (Schumpeter, 1942, ch. 22) a huge body of theory focusing on public choices that are being made has emerged (cf. Mueller, 1993, for a survey). It offers explanations for a wide range of policy related phenomena including democratic voting and government behavior. As is well known, the paradigmatic assumption here is that self-interest governs political behavior (and, hence, policy making) no less than it is supposed to govern economic behavior. A government's policy making is thus connected to a political process in which separate, vested interests are pursued inside and outside government under given constitutional and judicial constraints. Not surprisingly, the self-interest assumption induces a rather critical attitude towards instrumental (or "technocratic") views of the role of government as they underlie many interventionist policy recommendations.[1] Setting the wide-spread preoccupation with market failure in perspective, public choice theory argues about "policy failure". The latter is attributed to the fact that in politics separate interests are pursued and that defects in the constitutional set-up, in voting rules, judicial practices, etc. cause outcomes which often enough turn out to even run counter the goals actually pursued.

What new insights can be gained here by adopting an evolutionary perspective? There seems to be no reason to question or even reject public choice theory's realism with respect to the existence of separate interests in politics and their implications. To the contrary, an evolutionary approach suggests enhancing realism by adding the dimension of historical time to the picture, a dimension that allows the consequences of changing knowledge constraints to be accounted for. Most of public choice theory still centers around the equilibrium-oriented, comparative-static methodology and, correspondingly, assumes perfect or almost perfect information. But this assumption is a fiction. Voters, interest group members, and a policy makers – as much as everyone else – have bounded rationality. Because they lack perfect knowledge these agents are likely to try to improve their knowledge. But since their learning takes time, bounded rationality transcends the boundaries of a static representation of choice problems, be they private or public.

[1] Since the times of mercantilism such views have been influential, if not dominant, in the theories of economic policy making and public finance. In fact, even today, economists adopting the instrumental approach – to be discussed in the next section – often implicitly assume that policy makers do not pursue any interests of their own. They are supposed to intervene where markets fail to achieve certain goals or the hypothesized social optimum spontaneously. In some thought experiments, policy maker have even been portrayed as benevolent dictators.

The implications of bounded rationality and social cognitive learning

At any time, agents involved in the making of economic policy – just like agents being affected by political action – have limited factual knowledge of the means at their disposal, of means-ends relationships, and of possible effects they will have to face. They also hold incomplete views of the values, ends, and interests they believe in and find desirable. This is the result of their constrained attention and information processing capacity. It forces them to be highly selective in their learning. Some information receives attention and has a chance of affecting their current beliefs while other information is ignored or neglected. But precisely because in the past attention has been directed to only some information, it may also be possible to discover hitherto ignored information and to change perceptions and beliefs over time, sometimes even dramatically. Attention may be shifted. Likewise, certain values, norms, and ends receive the individuals' attention and may arouse their (com-) passion while other normative standards are ignored or neglected. With attention being shifted over time, normative perceptions and frames may be revalued.[2]

Both, selective attention processes and the information on which learning focuses are in many respects socially contingent – an often neglected concomitant of bounded rationality. Individual knowledge is acquired not least through communication with, and observations of, the social environment (for a survey, cf. Bandura, 1986). Newly emerging information, be it about problems, actions, values, goals, instruments, or constraints, can disseminate throughout a community or polity if it attracts sufficient attention. This may happen by way of a decentralized, direct face-to-face communication within the community or through a more centralized information dissemination by some mass media. As a result, normative and factual information is often processed in parallel by the members of a population. A characteristic feature of such parallel communication processes is that they are subject to "agenda-setting" effects (Schnabl, 1991), indicating that societal communication is highly selective too. The agenda-setting effect means that, at a given time, in social communication only a few of a vast number of potentially positively or negatively valued topics are actually processed while the rest is ignored.

This is important for understanding the conditions under which a public opinion is formed and under which collective action can be organized. As explained elsewhere (Witt, 1996a), in order for some policy item to attract sufficient public attention in a self-amplifying process, a "critical mass" of people communicating that policy item within their individual networks must be reached.[3] Since the less public attention and support they attract, the less influence separate interests usually have on actual policy making, there is a strong incentive for all interest groups to participate in the communication and agenda setting process. Not surprisingly, the communication and agenda setting process is subject to highly competitive

[2] An obvious implication of potentially shifting attention processes is a "path-dependency" (David, 1993) in the evolving values, norms, and ends.

[3] As a result of the selective channeling of public attention, beliefs, convictions, and ideologies are socially shared and become a characteristic of groups, communities, and polities. But the prevalence of some belief, conviction, or ideology over other ones is potentially fragile. Prevalence may rapidly break down once a critical mass of community members openly converts to rivaling notions (cf. Kuran, 1997).

influences from interest groups. The consequences of selective communication, social-cognitive learning, and shifting constraints at the levels of both factual and normative knowledge can thus be expected to play a central role in an evolutionary approach to explaining the actual political process.

Policy making as a collective learning process

Let us turn to the policy maker(s) and the actual policy making process first. Here it is often difficult to disentangle the processes of learning about facts from those of learning about values or goals, but the selectiveness of problem perceptions and agenda effects are clearly present in both cases. This has been highlighted in an exemplary case study by Hutter (1986) for the political process that led to the (by international comparison rather belated) adoption of patent law in Italy in the 1960s. Social networks – Hutter calls them "conversation circles" – had previously been established between interest groups, politicians, and lawyers. These are shown to have crucially affected the outcome of public opinion formation and, ultimately, of the political and legislative measures taken. Hutter's case is one of selectively shifting factual and normative knowledge constraints on the part of policy makers and interest groups affected by the policy outcome (the patent regulation). The interactive learning and adaptation process made a compromise between divergent separate interests feasible. It may be inferred that, had different networks been formed earlier, communication might have pushed opinion formation and policy making in a different direction – an obvious instance of "path-dependency".

Similarly, in an empirical study of the evolution of regulatory policy in Switzerland Meier and Mettler (1988) were able to demonstrate the significance of the interactions between problem perception, growing knowledge, and the pursuit of separate interests on the part of the involved legislative bodies, interest groups, and the media for the actual shaping of policies.[4] Olson (1965) is right in that separate political interests do need to materialize in some form of collective action. However, before it comes to organizing collective action, the separate interests must be articulated in the first place. This implies an often complex process of collective attribution of meaning to political issues, because agents affected by a certain economic or social problem do not necessarily, or easily, agree on what their true interests are and whether and how they can be pursued. As Meier and Durrer (1992) argue, emotional affection – fears and disappointments – play an important role at this level. They are a strong *agens movens* in successfully organizing collective action capable of attracting public attention. Moreover, they also play a crucial role in the later process of actual policy making which usually involves complicated, multi-stage negotiations with other interest groups, legislative representatives, and bureaucrats. The success of separate interests in remaining on the public agenda, in resisting reinterpretations and revaluations, and eventually in effecting favorable policy interventions is correlated with the emotional potential these interests can arouse.

[4] For an English summary of the "cognitive evolutionary model of economic policy making" developed by Meier and his school, cf. Slembeck (1997).

As these examples show, in actual policy making, learning by the policy maker(s) about facts and learning about values or goals are usually interactive processes. The same holds for the agents or interest groups who are, or expect to be, affected by concrete policy measures. Indeed, the very essence of reaching compromises among and between policy making bodies and interest groups is often a mutual recognition of the likely effects (i.e. of facts) and of the intensity and legitimacy of the interests behind the pursuit of certain goals (i.e. of values or norms).Learning on both levels can lead to at least a certain degree of acceptance of a proposed policy measure and its intended impact. Persuasion is, after all, an important element in the political learning process. Again, the social-cognitive underpinnings of the communication process with which persuasion can be attempted imply a critical mass phenomenon. Once it has been possible to convince a critical mass of voters of some policy it is usually much easier to persuade even more people.

Political entrepreneurship and the role of the political economist

It is important to note that, wherever social-cognitive learning implies critical mass phenomena, the actual bringing together of the critical mass amounts to organizing a collective action. Accordingly, it may be claimed that two features need to be recognized in an evolutionary perspective on the process of actual policy making. One feature is the diverse processes of factual and normative learning, both by policy makers and those affected, which intervene in economic policy making. The other feature is the crucial role of those agents who engage in organizing the collective actions that lead to learning about, and adoption and/or support of, certain political values, goals, and measures. In democratic institutional settings, a form in which such "agents of collective action" appear is political entrepreneurship. Political actors compete for a majority of votes in elections for government office and, ultimately, for being able to engage in concrete policy making. This competition may be seen as forcing onto the political actors a "vicarious" attitude of trying to anticipate and serve the preferences and intentions of the electorate – the analog to the vicarious role entrepreneurs adopt in serving their customers in the markets (cf., e.g., Schumpeter, 1942, ch. 22; Wohlgemuth, 2003). In view of this analogy, and given the pivotal role attributed to entrepreneurs in Schumpeterian innovation economics, political entrepreneurship may also be considered to figure prominently in the evolutionary approach to economic policy making. Indeed, political entrepreneurs seem to be an integral part of the democratic process. They participate in advocating and gaining support for new policies and other policy innovations and act as mediators of those innovations by channeling them through the various voting procedures.

A question different from that of seeing through political innovations in the democratic process is where the ideas about policy innovations originate from. Opinions, public beliefs, and ideologies that shape the (self-) perception of the political actors do not fall from heaven, nor are they usually created by political entrepreneurs. They rather emanate from the societal communication, learning, and opinion formation processes in which the ideas of agitators, preachers, prophets,

philosophers, and many others – among them, not least, political economists – are influential. Take a political economist who is arguing, pleading, or even crusading, for some policy concept or plan. It is remarkable how many economists find it worthwhile to offer their political concepts or proposals concerning the solution of certain economic problems and/or advance of the common good. Yet they have given little, if any, thought to the question of how their proposals can develop an impact on actual policy making.

In the explanatory approach to economic policy making some hypotheses should be included which allow to reflect the political economist's role (cf. Witt, 1992). In a world of perfectly informed policy makers who are determined to follow their own private interests, as often assumed in static public choice theory, the role would be difficult to explain. Not so, however, in the evolutionary perspective in which bounded rationality, social-cognitive learning, and competitive opinion formation processes are acknowledged as the framing conditions of policy making. These conditions leave the room which political economists and many others try to use for their persuasive activities. The latter usually start within some sub-cultural, e.g. academic or political, circles. Within comparatively small groups like these, it is easier to attract attention, to convince people, and to gain their support. Since the members of such circles also simultaneously participate in wider communication networks, the political economist's ideas are likely to be diffused further, the more persuaded and, perhaps, emotionally affected people are. The ideas may be taken up by political entrepreneurs as a basis for their own activities. Diffusion processes like these of course involve a vast number of historical contingencies. It is therefore difficult to predict what their outcome will be. However, already a vague chance of eventually influencing public opinion and policy making seems to suffice to motivate many political economists to engage in pleading and crusading for their concepts and proposals.

3 Instrumental policy analysis

A second approach to the theory of economic policy making is instrumental policy analysis. It is epitomized by the question of *what economic policy making could (try to) do*. In this approach, economic theory is hypothetically or practically applied to solve policy problems. This is a widely pursued practice also in evolutionary economics. The intention is to offer advice to the policy maker, much as engineers offer technological advice to clients who wish, say, to erect a building. Unlike in the approach to economic policy making discussed in the previous section, here the policy makers' goals are usually taken as given. The motives and interests why these goals are pursued are not made an object of analysis. What does the evolutionary perspective contribute to this second approach? Does it propose specific new instruments, say for monetary policy, fiscal policy, or competition policy? Does it imply a different attitude towards policy making – e.g. a skeptical one as argued by some authors who have been mentioned in the introduction? Does it lead to significantly different policy conclusions and, if so, by what standards could these be considered improvements? For some of these questions, no answer is currently

available simply because no corresponding evolutionary theories exist.[5] For other questions, an answer would require going into the details of (existing) specific evolutionary theories and deriving and evaluating their policy implications. Since this is not possible here, a more general assessment must suffice.

Like in the previous section, the basic premises of the evolutionary perspective provide the point of departure: the hypothesis of bounded rationality and its corollary, the hypothesis that, due to learning, the knowledge constraints of both policy makers and the agents affected by the policy can systematically change in the process of policy making. In the evolutionary perspective, instrumental policy analysis therefore faces two problems which will be discussed in turn. First, how can the consequences of changing knowledge constraints be accounted for in the analysis of policy measures? Second, and more specifically, given that the means-ends dichotomy informs the entire policy analysis approach, does that dichotomy have to be modified in the presence of learning about facts and values or goals?

Accounting for induced learning in economic policy analysis

Instrumental policy analysis presupposes that the theories applied have predictive power. However, the predictive power of a theory used in instrumental policy analysis is flawed *per se*, if the theory fails to account for potential repercussions which a policy measure can have because of the learning it induces. Such repercussions are likely to occur when people are affected by a policy measure in a way that changes their incentives. For instance, depending on the kind of policy measure, incentives to search for novel actions may be weakened or strengthened. Often policy measures may elicit search for new ways of acting because people are unfavorably affected by the measures and seek to neutralize or avoid that effect. Indeed, historically, on many occasions people have been induced to search for a "creative response" (Schumpeter, 1947), and policy measures imposed on them have figured prominently among the causes. A theory which incompletely reflects the reactions of the agents affected by the policy measure cannot inform the policy maker about the full range of consequences of that policy measure. In some cases the repercussions may directly contravene the specific policy making goal(s). In other cases no such directly impairing effect may occur, but other goal(s) may be affected adversely.

To give an example of a policy measure that affects the incentives for learning and behavior adaptation consider a text book case of a market interventions, the subsidy payment on unit costs in some industry. The comparative-static, price-theoretic analysis suggests that the subsidy will shift the industry supply curve so that, in a new market equilibrium, a larger quantity is produced and is sold at a lower price. No further learning and behavior adaptation is assumed. Yet that is likely to occur, and even though it does not necessarily undermine the specific

[5] There is no evolutionary monetary or fiscal theory, to take that example, that would allow the instrumental policy implications to be discussed. Nor is it entirely clear – even after almost 50 years of debate on "Schumpeterian competition" – what an evolutionary approach to competition theory implies with regard to possible policy instruments (cf., e.g. Kerber, 2003).

policy goal immediately and directly, detrimental effects are likely to crop up in the longer run. In order to theoretically keep track of the repercussions, the particular circumstances in which the policy measure is implemented have to be considered more closely. In the case of the subsidy payment they can be sketched as follows. The typical market situation in which interest groups pressure for subsidies and policy makers are inclined to grant them is one in which there is a tendency for politically significant producers to be driven out of the market. The causes usually are inflexible cost structures and/or competitive pressure on the prices. A situation like that regularly occurs at a stage of an industry's life cycle when an industry's overall market volume stagnates or shrinks.[6]

If the industry were left alone, that stage of the industry life cycle would create strong incentives for the resource owners in the industry to reorient, diversify, innovate, or search for relocating their resources. If the subsidy is granted, however, competitive pressure on the resource owners is reduced. By the same token the incentive to search for innovations or new business opportunities outside the market is weakened or eliminated. The aim pursued with the subsidy payment – to keep these resources in business – is attained (at the taxpayer's expense), at least temporarily. However, many of the cost reducing process innovations, many product innovations which increase the overall market volume, and many relocations of resources that might otherwise have been elicited do not occur. Since industries not enjoying subsidy payments continue to search for innovations, they tend to increasingly drain resources with innovative potential, like creative and entrepreneurial labor force or venture capital, from the subsidized industries. As a consequence, a division of labor emerges in the longer run through which some industries enhance their innovative capacity while other industries increasingly lose it. The competitive situation of the subsidized industry keeps on worsening. Due to the induced detrimental behavior adaptation, the policy of subsidy payments sooner or later turns out not to be sustainable.

It is not difficult to also find examples of policy measures which induce learning, because they create incentives to search for a creative response. And these examples again show what difference it makes, whether induced learning is, or is not, accounted for in the instrumental policy analysis. Consider the effects of a quantity tax on some particular item. All that the comparative static analysis predicts here is that the tax will shift the industry supply curve so that, in a new market equilibrium, a smaller quantity is sold at a higher price and a deadweight loss due to taxation will have to be incurred. However, if induced (inventive) learning is considered, a whole bundle of tax evasion activities can be expected to be tried which can cause many more reactions than just shifting the industry supply and demand curves further. If the tax is motivated by the desire to raise tax revenues, this will surely be counteracted by some of the effects of induced learning. If the tax is motivated by the policy maker's desire to curb the consumption of some item (like, e.g., alcohol), the consumers' induced substitution of the taxed item may lead

[6] Cf., e.g., Klepper (1996). It is also a significant concomitant of trade liberalization, or "globalization", which allows low cost producers from abroad to enter domestic markets in which high cost producers used to operate without such competition.

to an increase consumption of items even less desired by the policy maker (like, e.g., self-produced, unsafe alcohol or designer drugs).

Procedural devices to mitigate policy making limitations

A desideratum in an evolutionary approach to instrumental policy analysis thus is to go sufficiently deeply into the particular, historical circumstances under which a policy measure shall be implemented in order to be able (i) to assess how and how likely the measure affects the incentives to learn and search and (ii) to anticipate potential longer term consequences of the changes in incentives and possible creative responses. From an evolutionary point of view it needs to be admitted, however, that in the case of induced learning and creative responses it will often be impossible to predict the outcome and, hence, the consequences for, or the repercussions on, the chosen policy measures. Due to the epistemological boundaries implied by the very nature of novelty, instrumental policy analysis reaches its logical limitations here. For this reason, the notion that a policy maker could "engineer" some desirable state of affairs in the economy by choosing from a "tool box" of policy measures[7] is questionable, if not illusionary. The induced inventive learning challenges the effectiveness of instrumental policy analysis and sets narrow limits to it.[8]

Nevertheless, for more modest policy goals, the theory may suffice to design policy measures that avoid creating incentives for inventive learning. An example are technology policy measures like policy moderated coordination and standardization efforts (Gerybadze, 1992) or measures enhancing the diffusion of innovations (Foray and Llerena, 1996; Metcalfe and Georghiou, 1997). Thus, even though "engineering" visions of instrumental policy analysis seem mistaken, an evolutionary perspective on economic policy making does not imply a verdict against *any* kind of instrumental policy analysis. Moreover, from an evolutionary point of view, special procedural devices for policy making can be identified which seem particularly well attuned to the possibility of induced learning on the part of the agents affected by policy measures. These procedures and methods amount to a political trial and error process which enables the policy maker to learn, too, and to readjust to the responses that were triggered earlier in the process.

The basic idea was launched already by Popper (1960, ch. 24) with his notion of "piecemeal policy". It has been expressed more recently in more detail by Metcalfe (1994) and his conception of "adaptive policy making", which explicitly wants to account for the fact that there is no omniscient policy maker. The inbuilt readjustment procedures may avoid, or at least reduce, unintended and undesirable effects of policy measures. However, the flexibility which can be gained by such

[7] This notion was, for a while, successfully propagated, particularly in the context of macroeconomic policy making, for instance by Theil (1961) and Tinbergen (1964).

[8] In a similar vein, Hayek (1978a) has castigated the "pretence of knowledge" underlying the idea that, by a proper choice of policy measures, policy making could "fix" specific states or outcomes of the markets in an interventionist manner, cf. the discussion in Streit (1998). This "Hayekian impossibility theorem", as Wegner (1997) has called it, is sometimes misread as a dismissive attitude towards policy making *in toto* which, as Wegner demonstrated, it is not.

procedural devices designed to cope with the above mentioned policy making limitations raises a new question. When it has been claimed above that, by the policy maker's learning, both her/his factual and normative knowledge may change, then it may now be asked whether and how the relationships between the two sets of knowledge are affected. The question relates to the second problem to be addressed in this section, the distinction between means and ends which is characteristic for instrumental policy analysis.

The means-ends-dichotomy in procedural policy making devices

Does the means-ends dichotomy have to be modified in an evolutionary perspective? To recall, the distinction between means and ends was invented to keep separate two logically different kinds of statements. These are, on the one side, factual statements concerning the effects of instruments and, on the other side, normative statements about the legitimacy or desirability of goals and their underlying values and norms. The former statements express the effects of a policy measure, e.g., in terms of a properly defined ordinal or cardinal measuring scale. These statements may be true or false. Hence, the criterion for assessing them is their empirical validity which can be verified inter-personally. For normative statements, by contrast, no such inter-personal validity can be established. True or false is not a relevant criterion for them.

Now consider an adaptive or piecemeal policy making procedure in which a certain measure is implemented to set the course for a certain goal. The policy maker gathers information to learn about the consequences, i.e. finds out what the pursuit of the particular goal means in terms of the changes factually triggered. Hence, means and ends become better understood by the policy maker and the public, both as a matter of fact and of, e.g., emotional experience. For example, if the proclaimed goal is a "more just" income distribution, it is only with the experience made with some concrete redistributive policy measure that the policy maker finds out what kind of "justice" actually results (which is a factual question) and whether its observed consequences are indeed considered to be worthwhile (which is a normative question). It may turn out that other goals are also being affected by a chosen policy, and these unforeseen, additional effects need to be evaluated. The experience made will most probably be one of trade-offs which may induce revisions and revaluations at the level of the goals. A prominent case are inconsistencies or conflicts between the attainment of short run goals and the attainment of long run goals which are discovered only later.[9]

The discovery of normative conflicts between goals almost surely feeds back to the assessment of the instruments. Does this imply that the boundaries between means and ends are blurred? As far as the *logical* distinction between the factual and the normative level is concerned, this not the case. The implications of the feedback on the level of the means can still be discussed in a descriptive language. In an evolutionary perspective on policy making, including the procedural devices

[9] Cf. Pelikan (2003). The subsidy policy discussed above is an example.

to mitigate policy limitations, the means-ends dichotomy can therefore be maintained.[10] What may have to be revised, however, is the common belief that, because of the logical distinction, there is always also a *factual* separability between the scientific discussion on instrumental policy advice and the political debate on the normative assessment of goals. The feedback relationship between the factual and the normative level which the procedural devices for policy making imply tends to undermine the separation. The economist as a scientific advisor will factually find it difficult to confine her-/himself to the instrumental level, receiving the goals to be pursued from some politically legitimized decision maker.

The reason is the scientific advisor's and the policy maker's selectiveness in perceiving and tracking those feedbacks – a consequence of their bounded rationality. This may mean that the economist as scientific advisor can keep track of, and selectively draw attention to, some goal conflicts emerging from the use of instruments, while not alerting the policy maker or the public of others. The basis for selectively tracking some goals while neglecting others are implicit value judgements. With his/her value judgements the scientific advisor may thus influence the selective perception of goals and goal conflicts on the public agenda. If so, the advisor's involvement in policy making is factually going far beyond the commonly endorsed division of tasks between the politically legitimized process of determining the goals on the one hand and scientific economic policy engineering on the basis of the given goals on the other hand.

From an evolutionary point of view, the adequate interpretation of the division of tasks between science and politics, and hence of instrumental policy analysis, is therefore a quite different one. In line with the political economist's role discussed in the previous section, instrumental policy analysis should be understood as a part of a collective learning process in which policy makers, interest groups, the public, and economists as interpreters and advisors are involved. Whoever wants to influence this collective learning process needs to attract the public's attention (that follows agenda setting effects) to the particular goal conflicts (s)he is interested in. No wonder, this is what interest groups and also various, sometimes self-appointed, economic advisors try to achieve. Conversely, it may be concluded that, to keep potential manipulation in check, plurality in the debate on short-term and long-term means-ends-relationships is indispensable. Theoretically, all claims relating to the effects of policy measures on policy goals can be contested scientifically. Practically, however, scientific contestability depends on the plurality of contributions both allowed and made available in the public discourse. As should have become apparent, the evolutionary approach to economics may well be considered an im-

[10] Objections were made early on to the possibility of making a neat distinction between means at the factual level and ends at the normative level. Myrdal (1933) claimed that the distinction is invalid because policy instruments may have an intrinsic normative value, e.g. because their implementation may be a goal in its own right. However, policy instruments with such an intrinsic value may be treated as instruments which can serve at least two (potentially conflicting) goals. This means that in such a case the instrument's effects (or goal attainment) has to be measured on a multi-dimensional scale. Even with this complication, the corresponding statements are still either true or false. In contrast, the question of how much one of the relevant goals should be valued in comparison to other ones, and thus the desirable proportions for the attainment of the goals, are a normative issue. Hence, the argument does not contradict the logical distinction between the two levels.

portant prerequisite for, and a source of concepts and hypotheses suggested to, such a discourse.

4 Reappraising the normative foundations

A third angle from which economic policy making can be approached scientifically is focusing on the question of *what policy making ought to do*. This is the level of the theory of economic policy making at which the ends or goals are discussed on the basis of normative judgements. Can the pursuit of some particular goal be legitimized and, if so, how? Which goals are compatible with one another and which ones are conflicting? This is, perhaps, the most controversial of the three approaches to the theory of economic policy making, yet it directly relates to the origins of economic theorizing in moral philosophy. What new insights can an evolutionary perspective contribute at this level, i.e. to the normative foundations of economic policy making? An exhaustive discussion is hardly possible here. However, the range of problems likely to be encountered in future research can perhaps be highlighted by elaborating on two points. The first relates to normative judgements evolutionary economics implicitly subscribes to when it is applied to policy advice – which, up to now, has happened mostly in connection with questions of R&D, technological progress, innovations, and growth. The second point relates to a more general problem. In the evolutionary perspective, the basis for normative judgements may change: ends and results of policy making are assessed in a way which itself evolves. What does this imply for the normative foundations of economic policy making?

Judgements on the outcome of evolution

It has to be admitted that moral philosophy has up to now not been a central concern in evolutionary economics.[11] The moral connotations even of a phenomenon as central to the evolutionary approach as the secular innovativeness of modern times are therefore still unclear. An implicit presumption in evolutionary economics and its policy making applications is that innovativeness – if it does not just invalidate policy efforts in the form of "creative responses" as discussed above – is, by and large, beneficial and therefore ought to be encouraged. However, on a closer look, this judgement is not so easy to justify. There is no guarantee that evolution, whether in nature or in the economy, will be beneficial in any particular sense. For good reasons, innovations – the trying out of new paths – have, in many traditional societies, and for most of mankind's history, been regarded as dangerous and, with few exceptions, unwelcome. It is only in modern industrial societies that this attitude has changed dramatically, and that the individuals have been freed from the previously prevailing rigid institutional constraints on their innovativeness. When measured in terms of per capita real income, which in these societies has been

[11] An exception is Hayek's theory of societal evolution (Hayek, 1988). However, for reasons discussed elsewhere (Witt, 1995), this theory has not been very widely adopted in evolutionary economics.

in soaring to an unprecedented extent, the consequences have up to now been extremely beneficial.

In the light of this past experience, economic policy making today encourages innovations *grosso modo*. Yet innovations can also have unpleasant consequences. For example, at least some members of society for at least some period in their life have to bear the consequences of the inevitable "pecuniary" externalities of innovations. They usually come in the form of devaluations of investments which people have made before the innovations occurred. This may often mean harsh losses of wealth and sometimes true hardship. Furthermore, there is always potential danger lurking in everything that has not previously been secured by experience. In this case, it is the danger of possible damages and social costs that may accrue to society from technological externalities of an innovation which neither the innovator nor society have anticipated.

An attempt to balance favorable and unfavorable consequences of innovations is confronted with all the problems of interpersonal comparisons well known in economics and, on top of this, with severe epistemological problems. While hardship and danger are unavoidable if innovativeness is to be encouraged, a faster pace of innovations is not sufficient to guarantee the material growth and increasing prosperity, even of the poor, which have been experienced in the past. The rising standard of living of the masses proclaimed by Schumpeter (1942, chs. 7 and 8) is a historical fact. But it would be a naive extrapolation to take it for granted also as a concomitant of future innovativeness. First, because the future balance of benefits and (social) costs of innovativeness cannot be anticipated. Second, because the personal distribution of any net benefits of innovativeness in the future is indeterminate. As has been explained elsewhere (Witt, 1996b), in view of these imponderables, quite elaborate theoretical constructions are necessary to derive a legitimization for normative judgements supporting a positive attitude towards innovations. Even these conditions presume the standard utilitarian framework of unchanging individual preferences, i.e. of unchanging constraints on normative knowledge. In the evolutionary perspective, that assumption is, of course, untenable.

Implications of co-evolving preferences for the common good

Since the days of Mandeville, economists have traditionally been concerned with the problem of the "common good", taking it as the criterion for determining what institutions, states of society, and what policy actions should be considered desirable. Although other foundations, e.g. relating to natural rights, would be possible, economists have always favored utilitarian interpretations of the common good. Modern utilitarians subscribe to what might be called a radical preference subjectivism.[12] On that basis, it is difficult to imagine that new factual knowledge that becomes available, and which people become used to, will not affect their preferences. If preferences are affected, however, this means that possibilities of action

[12] On its basis, the common good problem appears as a problem of aggregating autonomous, individual preferences in a properly chosen (set of) variable(s) and of identifying maxima, or at least relative improvements, in that variable(s), if alternative states or policy action are compared. Such a comparative statics exercise is manageable as long as individual preferences do not change.

(or, to put it that way, economic constraints) and preferences co-evolve – people face different states of their preferences, or different utility functions, at different points in time. Such a situation induces well-known utilitarian puzzles (see Sen, 1977; Elster, 1982). Not surprisingly, normative judgements on economic policy making in the presence of changing individual preferences have not yet been investigated.

In order to make progress with a non-standard utilitarian framework in which the basis for normative judgement itself evolves, a theory about how preferences are formed, and how, and under what conditions, they change over time would be necessary.[13] On the basis of such a theory it might be possible to assess the implications for the development over time of the well being of individuals and, hence, the common good. Again, an important part of such a theory is likely to be the explanation of the role of social interactions and agenda setting effects. We do not only cultivate our own tastes over a lifetime. We also try to educate those of others in a way we would (currently) prefer. The outcome of that complex social interaction process is highly unclear. The very possibility of such effects, together with the general malleability of individual preferences, suffices, however, to infer that, with respect to the normative level of argument, a strong relativism will result. Radical preference subjectivism and its more practical relatives, consumer sovereignty or, for that matter, voter sovereignty, may therefore no longer provide the relevant normative measuring rod. But a debate on what may instead be a proper frame of orientation for normative judgements about human choices is only just about to begin (cf. e.g. Binmore, 1998).

Perhaps, some form of a more objective utilitarian approach may re-emerge like that prevailing before the subjectivist revolution in economics at the end of the eighteenth century.[14] In such an approach, the likely future outcomes of economic evolution under different policy measures, including possible regulation of innovativeness, would not be assessed exclusively according to the current state of our preferences. Neither would be the efforts and costs of obtaining those outcomes. Educated guesses would rather have to be made about how we would assess the likely outcomes in the light of the probable future state of preferences. If there is then reason to believe that we may not feel happier after becoming used to the future achievements than we feel right now (after we have become used to our present achievements), the present efforts and costs to be expended may strike a different balance with the future outcomes. This is particularly true where policy measures cannot prevent onerous, unequally born, pecuniary and/or technological externalities resulting from current innovative endeavors to improve well being. As may be guessed, to enter such reflections may entail a fresh look, from an evolutionary point of view, at a normative issue currently traded high in the economic policy making debate: the problem of sustainability (cf. Witt, 2000).

[13] Cf. Witt (2001b); it would seem a desideratum in evolutionary economics anyway.

[14] Cf. Warke (2000) for a characterization of that approach.

5 Conclusions

In this paper it has been argued that an evolutionary perspective on economic policy making has, first of all, to recognize the significance of the changing knowledge which the actors in the political arena have about desiderata and about the ways of achieving them. The crucial role of knowledge and, connected with this, the communication of new knowledge for economic policy making are the result of the narrow constraints on individual information processing capacity. Markets can account for these constraints by allowing decentralization and competitive specialization in information generation and processing (Hayek, 1978b). Political action, in contrast, requires the formation of some collective decisions, particularly in democracies. The need to obtain political support and/or a majority of votes in elections sets natural limits to decentralization and specialization in the processing of political information. Accordingly, the societal communication and agenda setting process can deal selectively with only a few of an incalculable number of potentially positively or negatively valued topics and tends to ignore the rest. Since the less public attention and support they attract, the less influence separate interests usually have on actual policy making, there is a strong incentive for all interest groups to participate in the communication and agenda setting process. Not surprisingly, the communication and agenda setting process is, and has always been, highly competitive.

The implications of changing knowledge constraints for the theory of economic policy making were discussed at three levels. The first level was that of the political economy of actual policy making ("what policy making does do"). The perception of their political desiderata by the actors in the political arena and the ways these can be achieved change as a matter of experience. This kind of change may shape policy making in the longer run more significantly than the current short-run constellations of interests and power on which established theories of political economy focus. The second level at which systematic changes in factual and normative knowledge are pivotal is that of instrumental policy analysis ("what policy making could do"). Assume that the implementation of some particular policy measures can induce systematic searching and learning efforts so that the agents intentionally or unintentionally affected by the measures may eventually come up with innovative (and, hence, non-anticipatable) responses. Then, the efficacy and suitability of particular policy measures may well appear quite different from the way they do when assessed on the basis of a standard comparative-static equilibrium analysis. The same holds true, of course, for the effects of systematic learning on the part of the policy maker(s). Finally, some implications at the normative level of economic policy committed to the idea of a 'good society' ("what policy making ought to do") were highlighted. An evolutionary perspective does not itself imply any normative conclusions. But the insight that factual and normative knowledge may change is likely to have an effect both on the possibilities of making normative judgements and on their content. The actual experience of some norms may affect norm preferences and value judgements. The insight that subjectively held norms and values are the result of earlier learning usually leads to a strong norm-relativism.

As it has turned out, to adopt an evolutionary perspective does not result in a wholesale rejection of what public choice theory, political economy, theoretical politics, and social philosophy have to say on economic policy making. However, those theories have to be extended and modified to account for the possibility of changing knowledge constraints. Correspondingly, the evolutionary perspective can also be expected to make a difference for the content of economic policy advice due to the fact that emphasis is shifted, problems are framed differently, new questions are raised, and the attitude towards, and the style of, policy making is changed. This will have to be proved, of course, in concrete and detailed policy analyses, something that could not be offered here in the limited space available.

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