ECONOMICS BETWEEN EXPECTATION AND APPLICATION

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1. The image of economic science

The famous American economist Milton Friedman once typified the economist as follows. He is the member of a group of shipwrecked people washed onto an uninhabited island with a can of beans as their only sustenance who declares, after various ideas have been proposed to get the can open, "Let us assume that we have a can opener."

This caricature of the economist depicts him as a person rather out of touch with reality. By merely assuming that the tool so badly needed was available he denies the practical problem for which a solution is being sought, and drifts into a dream world. Matter-of-fact and practically-minded people have more often accused scholars of losing contact with reality. It cannot be denied, though, that in the past two centuries there has been an increasing influence of scholarship on practice. This is not only because of the goods and services whose availability and use—thanks to science—we take for granted, but due equally to scientific theories whose popularised versions change our worldview. Those ivory tower characters have had a remarkable influence after all.

Regardless, or perhaps precisely because of this, scholarship has become a social concern. Increasingly, the most important criterion to measure academic research is its relevance. Substantial contributions to the solution of practical problems are expected from scholars and theorists. The public wants relevant research, not only relevant with the advantage of hindsight, but relevance demonstrable already in the planning stages of research projects. An economic approach to scientific research is perceived: it is an investment in means whose dividends are to be definable and predictable. Obviously "relevance" used in this way can only bear on specifically stated questions and objectives. Relevance in the sense of influence on the reigning world picture is something difficult to demonstrate in advance. How do scholars react to this kind of societal involvement (or is it perhaps interference)? Are they sensitive to it, and could they be? These are urgent questions especially for economists today.
To arrive at answers to the above questions one must recall that scholarship has developed out of the search for solutions to practical problems. This is true also for economic thought. What in other words has been reproached in economics as a lack of contact with reality has gradually sifted in.

In Greek (Aristotle, Xenophon) and in medieval thought the primary problem was how to define and arrive at a fair exchange and a just price. Despite the fact that money, markets and profit came into play here, this kind of thinking cannot be classified as market analysis in the modern sense of the phrase. Market analysis as we know it concentrates on the mutual relations between production, consumption and distribution.¹)

From the 16th through the 18th century in Western Europe, simultaneous with the establishment of its nation-states, of central importance was the economic welfare of the nations' peoples. After medieval times a new practical problem appeared. Numerous books and especially pamphlets appeared then which counselled the "prince" on economic policy. Despite many kinds of national variations, this period can be typified on the whole as that of so-called mercantilist thought. Basically mercantilist thought holds that the welfare of a country is assured only by nationalistic government control that regulates matters. Particularly the regulation of (international) trade meant that the economic life could flourish and the national state become more powerful.

Mercantilism appears to us to be pre-eminently practically directed and therefore relevant. The norm of the just price retreats into the background and an economic-political objective takes its place.²) Manipulable cause-effect relations in economic life are sought in order to realise this objective.

The relevance of the economic thought just briefly sketched does not need to be doubted. Is it not immediately engaged in practical economic activity and pointed through prescriptions and counsel? Although not all instructions and advice are equally wise of even correct, the engagement as such is not an issue. The character of economic thought takes a turn, however, with the appearance of the famous book by Adam Smith, Inquiry into the Nature and Causes of the Wealth of Nations (1776). Though the title clearly shows that Smith is still occupied with the mercantilist problematic, and that the still understands "political economy" as "a
branch of the science of a statesman of legislator", in his view the role of the statesman changes with regard to economic life. For Smith a well-defined government policy is not the final guarantee for a country's welfare. Just as recuperation from illness is attributed not only to the intervention of a doctor but also to the organic principle of preservation, in the same way the economy has its own principle of preservation.  

It is the job of the statesman to give this element wide room. Economic analysis must now concentrate on the question of that a healthy economic situation is.

Economic analysis changes the character that it has had up to this time. The analysis is no longer directed to the discovery of cause-effect relations that are pertinent to governing, but it seeks the hidden plan or the hidden mechanism of the economic process. Its hiddenness implies that daily or ordinary experience will not itself bring comprehension of that mechanism. Almost whenever the question arises as to why the economy is poor, one points to visible governing institutions, all of which implies that there is a guilty party. Comprehension of the law of the economic process, though, is not immediately tied to a practical interest because along with this comprehension comes the notion of a relative independence of economic life. In this way the relation between theory and practice is reformulated and as a result a problem of relevancy can arise.

The problem thus states is not (yet) urgent, however. The situation is comparable to the understanding of the law of pressure and volume in gasses, for instance. This law also is always valid, no matter what transpires. Nevertheless, to acknowledge this carries practical implications for by means of this knowledge the invention of the steam engine, for one example, was made possible. To draw an analogy from this: the comprehension of the hidden law of the economic process can allow a directing policy that optimally promotes the "wealth of nations"; therefore, there is apparently not relevancy problem after all. This position, generally stated, can be illustrated by an optimistically tuned publication from the recent past.

In 1966 a book appeared in the U.S.A. under the title, New Dimensions of Political Economy; in 1968 the German translation was published under the even more telling title, Das Zeitalter des Oekonomen (The Age of the Economist). The author, Walter Heller, is an economist of German origin,
who was chairman of the Economic Advisory Council under presidents Kennedy and Johnson. The book gives expression to the high regard economists enjoyed in the Sixties because of the practical relevance of their work. Heller describes at the start of the book that for the first time in history two presidents dared to apply the whole arsenal of the modern economic toolbox. This courage shows up best in American circumstances where a much greater reluctance to direct the economic process existed (and exists) than in most Western European countries. In Heller's opinion, though, the policies were a success. Since 1961 there was an uninterrupted expansion of the American economy because the availability mechanisms were put into use. In the first five years of this growth seven million jobs were created, profits were doubled, and the real social product increased in volume by one-third. Simultaneously the mental gulf between economists and businessmen, between advisors and deciding bodies gradually narrowed. The paralyzing effect of economic myths and the mistaken anxieties that surrounded economic policy dissipated. Finally it was recognized what the law in 1946 had already established, that the government holds comprehensive responsibility for economic stability and growth. According to Heller, the issue here is incisive change. No new theory is being formulated but it is the fulfilment of the Keynesian revolution—30 years after J.M. Keynes fired the first shot. Consequently, economists have emerged as the presidents' closest advisors. They are above all able to show the president how to achieve balanced growth of the economy.

Heller makes an interesting remark in the foreword to the German edition. He sees the timing of that publication as fitting. In 1968 both the U.S.A. and Germany had to show clearly if a dynamic economic policy, in which modern economic instruments were directed towards stable growth, could also sufficiently meet the heavy demands that were now being placed on it. At the time the U.S. economy faced the high tide of a business cycle. How was it possible to rein in the by now high inflation without stunting the growth? Meanwhile the German economy faced a recession. How could growth be restimulated without again producing high inflation?

Almost twenty years have passed since then. Whatever has happened to the high-pitched expectations that were cherished by both economists and politicians? Economic growth in western economies has drastically weakened, in some cases even become negative. In combination with the
continual technological development this has led to massive unemployment. Inflation is stubborn; with much effort and at the cost of substantial effects on income, it has decreased recently. Government attempts to improve employment opportunities, however, threaten also to activate inflation again. In brief, since the Thirties there has never been such a deep depression.

It can no longer be denied that there is a problem of relevancy: economic-theoretical knowledge and the policies based upon it no longer lead to the expected results. This problem is emphasized all the more too because the theoretical research that took place at the same time was nonetheless judged to be fruitful. On the other hand, there is no doubt, that most economists in general are motivated by the desire to improve society. Thus can the problem of relevancy not be blamed on wrong intentions. What is going on then? This question is being posed by the public as well as among economists themselves.

It is our thesis that economic science is drifting in a relevancy crisis. This crisis is caused as much by the too highly placed expectations of the policy makers as by the overly ambitious pretensions to which economists hold. With regard to these expectations we will show that the practice which longs for theoreticians to develop the instruments to realise objectives is hereby asking for too much. Instruments are never a matter of theory only. Regarding the pretensions we will show that economic science overestimates itself by trusting that it has the proper approach to analyzing reality even though it recognizes that the available policy tools are still imperfect. In our opinion moderation of both expectations and pretensions is necessary; such a moderation should have material consequences for policy formation and theorizing. In this way we do not pretend that the problem of relevance is resolved. Because of the inherent differences between praxis and theory, there will always be a "friction" in the process of transforming scientific knowledge for the service of the general public. For that reason we are treating a specific problem of relevance in this article, actual to our situation. Subsequently we will deal with the character of expectation that lives in the public and the pretensions that theoreticians put forth.
2. The Expectations in Praxis

It has only been for a few decades that one can speak of serious expectations that live particularly in the sphere of government policy decision-making based on economic science. Actually this has been the case only since the Second World War. This change is attributed to the dying off of the attitude of "social fatalism". This attitude held that economic processes were to be seen as the result of impersonal powers or "laws" that indeed were perceived but which were unchangeable in the way they worked. Instead of this fatalism a confidence in the ability to regulate the economy has grown, even though the controlling influence is not always properly used.

The earlier attitude of fatalism is rather surprising. Economic science, as a child of the Enlightenment, was a sign of the continual improvement of society. In seeking systematic knowledge of the economic process, however, it appeared that there were unpleasant and even uncontrollable results. Already in its classical period economics was known as the "dismal science", the science that studied the laws of income distribution and in that way arrived at the conclusion that the "best possible world" for nearly everyone meant an existence at a minimal standard of living. Later on it was shown that the business cycle was inevitable, which meant disequilibrium—especially painful in the depression phase—instead of the equilibrium that really ought to have existed.

The reality of the standard of living, fortunately, was otherwise. At least the doom that seemed to hang over income level was in fact contradicted in a large part of the western world. Conjunctural bad weather remained an item of concern longer but Keynes' insights made fatalism disappear in that matter, too. Theoreticians and politicians alike allowed their conviction to grow that massive unemployment had become a thing of the past.

Due to the change in thinking just described, expectations in praxis with respect to economic science were constantly being pitched higher, that is to say, policies based on economic theories must surely be effective. This would not only be so in broad terms but it would be precise up to a tenth of a percent. Apparent political effectiveness, then, is the measure for the relevance of theories.
Although the statement can no longer be avoided that effectiveness is not very great at all anymore and is sometimes even completely nonexistent, the question can now be asked if the relation between effectiveness and relevance it all that direct. In other words, may apparent political effectiveness be the exclusive ground on which the relevance of a theory is tested and thereby attribute its reason to exist? In order to answer this question we will pursue what factors influence political effectiveness.

a) To begin with, effectiveness of an economic political program is dependent on the possible realisability of that for which one aims. Easily enough can something be desired which is impossible to fulfill, as is the case now. Policy effectiveness falls short as a result of a lack of clear and coordinated socio-economic objectives. In practice one too quickly assumes that the realisation of each of the five well-known objectives of an economic political program are in harmony with each other. Indeed, the combined objectives express a balanced, growing economy, but in the process of actualization they compete with each other, that is to say, more of one often implies less of the other. In the recent past one wanted to do too much all at once, without comprehending the limits. In fact, the relevance of economic theory is hereby overlooked because insight into the mutual dependence of the objectives is an important result of the analysis.

b) Policy effectiveness that falls short is also a consequence of the lack of sufficient effective instruments by which the economic process can be influenced. The nature of our economic system generates a preference for globally functional instruments, that is, instruments that have effect on the entire economic system, without taking into account the differences within the system. In this way the structure of the system remains a given for economic policy and the accent falls one-sidedly on the conjunctural features. The structure of the economic system, however, is developing also. Politics would do well to take this into account, also by speaking out about the desirability of structural features.

c) A third factor determining policy effectiveness is the way in which practical political decisions are made and how the bureaucracy carries out those decisions.
In these three factors econmic theory itself has managed to stay out of range of the discussion and thus the relation between effectiveness and relevance seems indirect. Contrary to this observation, it can now be contended that one is concerned here with a disruption in that relation and that by restoring order the link would again become a direct one. This is an academic observation, though, for in everyday policy programs these factors continue to play a role. This implies that policy makers also need to evaluate themselves critically. Such a critique cannot be passed onto theory, as if practice in this regard can forego its own responsibility.

The most important point on this subject has not yet been made, however. Regardless of problems in practice, the expectation could exist that because of econmic science in principle an infallible and perfectly precise econmic policy is attainable. As we see it, this expectation can never be fulfilled because of the character traits of theory itself. There is by necessity a discrepancy between theory and politics in practice. To be sure, theories influence substantially the outlook of econmic policy, but this policy does not flow forth purely and simply out of a general theory. There are a variety of reasons to explain this.

1) A theory cannot force matters with regard to the policy that an adherent to this theory ought to follow: the theory can usually support various political positions, because a theory is general. In order to establish a policy it is necessary first to determine precisely what the concrete situation is. On that alone opinions can already vary.

2) One is concerned with an econmic theory and a policy deriving from it which takes objectives and means into account to the extent that they belong to the econmic phenomena. In practice, though, other aspects of econmic policy need to be respected as well. In this way an econmic policy (e.g., the abandoning of a minimum wage in order to combat unemployment) can for other reasons be unacceptable. Or, the effectiveness by which an econmic objective could be reached can be just as dependent on the use of non-econmic measures (e.g., a change in the law).

We return to the question we posed about the reaction between effectiveness of policy and relevance of theories, concluding that this relation
does not progress in a direct line and deductively. Effectiveness is something that is also dependent on practice itself and cannot be guaranteed because of a theory. In other words, the ineffectiveness of policy programs is not simply to be reduced to the irrelevance of an economic theory. Theories are abstract and can be nothing else but that. For that reason apparent ineffectiveness could not be the reason to reject a theory. Theoretical insight must be complemented in practice by insights into the concrete situation and by wisdom. Experience, common sense, personal judgement, a sensitivity to relationships and the other virtues that clothe a good statesman are, along with academic insight, indispensable for an efficacious policy program. Wherever this is too lightly treated, expectations will run too high.

3. The Pretensions of Economic Science

Expectations in daily life are not unrelated to claims made by theorists. Economists do not only have the intention to improve the world but they pretend to offer relevant insight into it as well. Parallel to the expectations of the public is the growth of such pretensions, as Walter Heller's witness showed (cf. opening section). As much as there are disappointed expectations now, so too have economists begun to doubt more and more the relevance of economic theory. It is even being said that there is a growing, serious disagreement about the supposed reasons for this lack of relevance. The phenomenon of schools of thought comes to the fore. No matter how pluriform or divided, the mainstream of economic reflection, which also has the most influence on daily life, has come under sharp criticism. Two important points deserve to be highlighted:

a) critique on the current view of the subject matter
b) critique on the established method of research.

a) Critique on the current view of the subject matter of economics.

The irrelevance of economic theory is clearest in macro-economic problems, i.e., problems that pertain to the national economy and that are of immediate political importance. At the same time the comprehension and attendant control of inflation, unemployment and negative growth has been very limited. An improvement in the situation in the first place requires that macro-economics be founded in the so-called micro-economics, a system of theories about individual economic acts and their
consequences. Aside from the question whether such a foundation is in itself problematic, doubt arises about the relevance of the currently available micro-economics.

In this micro-economics the view on the subject matter is brought out. This view establishes in principle the explanatory capacity of economic science and similarly the capacity of control. The traditional definition of economics, then, is contained in the expression "logic of choice". The attention is thereby drawn to the logically necessary choice that arises frequently in the interaction between activities of individual persons, namely, the choice as to what degree given aims can be realised with given scarce means of alternative uses. This becomes a scientifically interesting question whenever the goal-realisation occurs through exchange on the market under the condition that everyone strives for maximum results. The interesting features of this are:

1) if it can be shown that every market can be in equilibrium, that is to say, that at a given price there are no buyers left who still want to buy at that price without there being a corresponding supply, or, in opposite terms, that there were no suppliers left who still wanted to sell at that price without there being buyers; and

2) if it can be shown that the disturbance of a given market equilibrium sets a process of adjustment in motion towards a new equilibrium. To rephrase the above, the interesting question is whether it can be shown that, given the assumed behaviour of the individual, a market achieves its equilibrium through price adjustment. In these analyses, account can still be taken of the interdependence between markets so that theorizing arrives at research into the possible general equilibrium in a system of interdependent markets.\(^{19}\)

The abundance of critique on micro-economics in the given sense of a general equilibrium system concentrates on two points. In the first place individuals rarely (or even almost never) behave in accordance with the rule of striving for maximum results. Too great a part of actual behaviour is thus ignored or explained away. Secondly, equilibrium in the market place is not only achieved through price adjustment but also, for example, through adjustments in the proffered amounts.

In other words, current micro-economics has removed itself too far from reality; it has created its own (imaginary) world. In it one is
kept busy with phenomena in the market that are reduced to stylized behavioral choices. In forming theories these stylized facts in turn give rise to other stylized facts. This becomes clear in the way micro-economics is worked out. In this view all activities of the economic process must be interpreted as exchange transactions. For example, production must be seen as exchange; likewise the choice someone can make to invest some of his income now or at some future time (or even to not invest it at all out to leave it as an inheritance) is seen as an exchange transaction. This is how fictional markets are introduced.

Admittedly it must be stated that economists in the mainstream react to the above-mentioned points of critique by proposing more realistic theories. In this way one attempts to analyse individual transactions with only a limited knowledge of the economic subjects, so that uncertainty, expectations and the costs to get information begin to play a role. In analysis of the market, processes of disequilibrium and of the exercise of power take a larger place. It remains to be seen, however, if fundamental limits to the manner of approach as such can hereby be removed.

b) Critique on the established method of research.

Apart from the problem of correspondence between the world of theoretical entities and reality is also the problem of the nature of processes.

The pretension of theory has long been that it thinks itself able to articulate the laws that obtain for processes. The natural sciences provide the big example here. The method held to in economic science cannot differ essentially from what economists say the method in the natural sciences is. Their idea of the method for the natural sciences, where one can speak of explanations and predictions, has not always stayed the same, yet in mainstream economic methodology the so-called hypothetical-deductive method has become influential. Characteristic of this method of theorizing are three steps:

1) the construction of a theoretical model based on certain assumptions,
2) the logical deduction of hypothesis on the reality in the model, and
3) the testing of the hypotheses against empirical data.

This hypothetical-deductive method has lately come under increasing critique as much from within the philosophy of science itself as from
within economics. In the scope of this article it is not possible to do more than give an impression of this by means of the issue of the relation between theory and reality. Two objections can be pointed out.

i) May it be said that when a hypothesis has withstood the empirical test an explanation of the phenomenon in question is then also obtained? Assume that the hypothesis said that the purchase of cauliflower was sensitive to the price level so that more cauliflower would be purchased at a lower price and less at a higher price. Assume moreover that empirical data collected over a period of years indeed corroborate this picture. Where does one get an explanation of this order of events? It can be found in the theory of consumer behaviour, in which concepts such as preferences and utility functions appear as well as the assumption that the consumer shall strive for a maximum satisfaction of needs. That is in brief the entirety of the theoretical model, in which also the so-called laws are present. The validity of the logical reasoning and the explanatory pattern it encloses do not rest on empirical proofs but on logic. The meaning of the theoretical model is merely to generate hypotheses that can be tested empirically.

It would be improper, however, to intend to understand the testing of the hypothesis as “proof” too for the underlying theory, although this happens easily because of the interconnections among the three steps described in the method. One argument for this impropriety is that the same hypothesis can be deduced out of a variety of theoretical models. In other words, when a deduced hypothesis is established through empirical observation, then it is sooner established that coincidental facts correspond with the theory than that the theory agrees with the facts. And that is precisely the criticism levelled at this method.

ii) This method implies that universal laws are drawn theoretically from certain assumptions. This means that mainstream micro-economics is a system of theories with predetermined results. But is that model satisfactory? Reality as we experience it departs strongly from it. More recent developments in micro-economics attempt to theoretically hold that in reality chance, uncertainty and risk, all play a role. At the same time, however, it must be accepted that predetermined results are no longer possible. The question is if
in this way the original concept of orderliness in economic life is not definitively undermined such that we are obliged to look for a new direction.

4. Assessment

In our first section we posed the question if economists can meet the demand for relevance. Our criticism of the mainstream extends to the point where we doubt whether there are opportunities to be found in it to bend theory back towards reality. Things have become firmly entrenched in a striving toward axiomisation, i.e., reformulation and extension of theoretical insights in a deductive system, based on several indubitable axioms. The interests of mathematics—and of statistics, whenever one deals with quantification—has come so much to the fore that that sooner determines what qualifies as an interesting problem than the reverse, that the problems determine which solution techniques to employ. In order to be relevant in the sense of formulating a theory where the relation of theory to reality can be reconsidered, a lot of leeway is demanded of mainstream economics. To this end two different kinds of attempts can be distinguished.

The first attempt can be clarified with the help of Milton Friedman's conceptions. He wants to tie in closely with daily life experiences and the urgent problems there. Theorizing is subservient to politics whenever it offers valid, non-trivial predictions about the changes in economic quantities. These predictions, according to Friedman, are immediately relevant for policy decision-making because in these decisions account can be taken of the changes in the circumstances and the effects of the policy itself. Briefly summarized his adage is: the success of a theory is the success of its predictions, and that is likewise its relevance.

In Section 1 we noted the playful description Friedman uses of what an economist does. It seems to contain a purposeful ambiguity, though. On the one hand one can read that an economist is someone who departs from the urgent practical problem at hand and Friedman objects to that. On the other hand he holds that an economist is free to work with assumptions that at first glance look unrealistic as long as the theory delivers usable predictions. In this way Friedman's position is
typified as instrumentalistic. Although this position looks attractive at first, two serious, interlocking objections adhere to it. The first is that, because of the connection to practical problems, theorizing becomes fragmentary, losing the character of a coherent whole and thus with every new problem must start over at the beginning as it were. The second objection is that a certain theory can give correct predictions but as such cannot yet offer an explanation. That is to say, it cannot offer insight into the way causes work whereby it becomes clear why a prediction is accurate. It also becomes unclear why scholarship should have such a privileged function in drafting predictions. The businessman, the politician, and the fortune-teller can all make predictions, too, that could come true.

We are able to conclude that attempts to be relevant à la Friedman do not provide a veritable alternative for the mainstream. In this manner theory threatens to lose itself in its service to the public.

The second kind of attempt to reconsider the relation of theory to reality has already been pointed out at the outset of this section when a critical discussion of the vision on subject matter and method in the mainstream was raised. In offering an alternative that is more relevant, the concern is to re gauge the fundamental ideas and methods of economics. In our opinion the crisis of relevancy must be approached along this route. At the same time no one is proclaiming that it will be a trifling effort because in fact everything is tuned topsy-turvy. Not only does the question of the nature of economics again raise its head—what is exchange, price, capital, income, etc.—but also the question what is scientific investigation comes up. Furthermore there are important objections to raise against the various alternatives that have partly materialized. In the scope of this article it is not possible to argue these issues further. We can briefly point to what we see as a possible way to proceed.

Regarding the view on the subject matter, it should be noted that instead of accentuating a "logic of choice" the concern is for social processes cohering production, consumption, and distribution. Economics becomes more relevant whenever it breaks through the methodical individualism that forms the basis of mainline economics. Only then will there be room within theory for the historical changes in economic life itself, whereby also the solution to direct urgent problems not
too easily becomes reduced to the question of the number of mechanisms.

Concerning the view on method, instead of accentuating the natural law character of the economic process, actors take original decisions, orienting themselves by means of norms or rules. This is bound to the idea that economists also as theoreticians must orient themselves by these norms in their theorizing so that the theorizing itself comes into a normative perspective.

To plead for this change does not guarantee the relevance of theories, though. Rather it brings up the position that critical re-justification of a chosen theoretical approach is required again and again.

Academic problems are not identical to practical ones and theoretical solutions are not the same as practical policies. That is why in section 2 of our discussion it could appear that day-to-day practice has its own responsibility for the effectiveness of the economy, a responsibility that cannot be shoved onto theoreticians by demanding relevant theories of them. Why is daily experience's own responsibility not seen as self-evident? In our opinion people have looked to scholarship to guarantee the fulfilment of their longing for a safe (economic) future. This attitude is the counterpart of the instrumentalism just described. Just as the instrumentalist position scholarship is placed as the extension of practical trade, so is practical trade now seen as the extension of the scientific research. To rephrase this, the flipside of instrumentalism in scholarship is the model-ideology in practice. This ideology is the belief in the "problem-solving" ability of scholarship, an ability that makes this kind of impression on praxis especially through the constructed models in which reality is stylized and manipulation possibilities are presented.

Can the model-ideology be overcome? A change in this ideology seems to be more difficult than a change in the scientific enterprise itself, as was argued for above. In scholarship a methodological debate can be carried out about the re-orientation of theorizing. In praxis, the expectations for the structure of life are immediately placed in a vulnerable spot. We are concerned here, therefore, with a change in attitude. A breakthrough of the model-ideology means then the acceptance of an attitude whereby the contribution of scientific knowledge to policy-making becomes recognized as peculiar, and therefore
as limited. The security that one wants to receive from the scientific enterprise needs to be given up. That will create resistance not only psychologically speaking but also because it will call for a change in world-view.

By way of conclusion we can say that the current problem of relevancy steers us not only back to the foundations of economic science, but simultaneously also forces us to look at the fundamental premises of policies. Economic science will have to renew itself in its vision of reality; praxis will have to reclarify the proper role of economic science within the entirety of social practices. The result cannot be a seamless binding of theory and practice but instead a release from the embrace that was becoming mutually oppressive.

The relevancy crisis is also, then, a crisis in the assumptions concerning the relation of theory and practice. The first assumption is that the practical objectives of economic policy (cf. section 2) could be nothing else but the theoretically analysed conditions of a system that develops itself in a balanced manner. Yet why is it that practice cannot begin to set its own objectives and confront them later with possible limits to their realisability?

The second assumption, which stems from the first, is that theories describe reality in such a way that to transformation of those theories is necessary in order to apply them. For example, the theoretical concept unemployment is in this way also the unemployment registered by the employment office (apart from possible problems of measurement). Should the abstract character of economic theories, though, not rather require that, analogous to the transformation of research in the natural sciences into actual technique, here also a transformation regarding economic policies must take place?

The third assumption is the manageability or controllability of practice as it is described in the theoretical model. This assumption seems more and more to be an overestimation of our possibilities. Without wanting to fall back into a social fatalism, we would have to accept that in praxis our possibilities in terms of (theoretical) designs for the future are limited.
FOOTNOTES

1. In many books on the history of economic thought one perceives in Greek and medieval thought the predecessors to modern economic science. Theoretical insights of today were said to be present then in a primitive form. It is highly questionable whether that is a sustainable interpretation.

2. The advice that was given upon request and voluntarily was often colored by specific group interests. This was so obvious that especially in later times it was emphatically stated in publications that such interests played no role.

3. Cf. the following statement by Smith: "The natural effort of every individual to better his own condition, when suffered to exert itself with freedom and security, is so powerful a principle, that it is alone, and without any assistance, not only capable of carrying on the society to wealth and prosperity, but of surmounting a hundred impertinent obstructions with which the folly of human laws too often encumbers its operations; though the effect of these obstructions is always more or less either to encroach upon its freedom, or to diminish its security."

4. "Causa" originally meant guilt.

5. In the well-known textbook by W. Eucken, Die Grundlagen der Nationalökonomie (Berlin, etc. 1959, 7th edition), this was nicely illustrated by introducing an economic problem as a problem of wondering. Sitting in front of the heater in my living room I can easily wonder at the rather immense complex of labour division that has indeed arrived at the result that that heater should land in my front room. How is the coordination of this almighty complex possible?

6. The fact that there is no relevancy problem does not automatically preclude that the application of knowledge that is practically fruitful cannot be accompanied by a "realisation problem". This is clearly seen in the technique but also in the economy, where appropriate institutions are necessary.


8. This applies similarly to the current recovery of the American economy. "Probably the surprising revival of the American economy is the result of bizarre conditions that no one would have deemed possible if it had been predicted a few years before that things would go the way they did." (P. Friese, "Het 'onmogelijke' herstel van de Amerikaanse economie", Intermediair 19 (1983), nr. 33, p. 13).

9. This is not the first time that this relevancy problem is painfully felt. During the crisis of the Thirties economics had no answer either. Yet the impasse was broken through then by J.M. Keynes. That is why it is sometimes said that we are now waiting for a "new Keynes". This stance is slightly naive—as if the current situation, both with regard to the state of economic science and to that of economic practice, could be seen isolated from the previous crisis.
10. This expression is borrowed from A. Lowe, "Is present-day higher learning 'relevant'?", Social Research 38 (1971), p. 565.


12. These objectives are balance of payments, acceptable income distribution, stable price level, full employment, and satisfactory economic growth.

13. Somewhat crudely put in a newspaper article: "The second biggest disaster to hit our country since World War II is that about 15 years ago the Labour Party took to viewing our welfare as well as our freedom as a natural phenomenon." (A.P. van Walsum, "Welvaart en vrijheid zijn geen natuurlijke verschijnselen", NRC Handelsblad, 18 februari 1984.)

14. Inasmuch as it concerns given changes, not only should politicians but experts also must be alert to the need for an assessment of the context of the economic analysis that lays at the base of the political program. It remains to be seen if policy potentials and instruments could be allowed to be determined through possible data and means that in bygone years were considered relevant. At this point one must not overlook the fact that structural changes can emerge because of government policy in other areas. (Consider for example the policy of equal employment opportunity that has consequences for the labour market as well as for personal income distribution.)

15. In this way one sees that already since Adam Smith's time the general theory of equilibrium has had much influence on the establishment of the economic order and does so still today: arguments for anti-cartel legislation, international labour specialisation, free wage negotiations, and resistance to protectionism are all derivative of this theory.

16. Refer also for this to G.J. Stigler, "The Economist and the State", found in his collection The Economist as Preacher, Oxford, 1982.


18. Examples of schools that present themselves as alternatives to the mainstream are, among others, post-keynesians, (neo-)marxism, and neo-institutionalism. Moreover, within the mainstream itself trends occur more clearly, such as monetarism, the theory of rational expectations, and "supply-siders".

19. A completely planned economy is a situation that is theoretically uninteresting. In such an economy, the coordination of individual actions is an intended result. For that matter, the result of the analysis is this kind of coordination between individual actions, as if there were a planned economy. In the first section of this essay the turn to economic science is typified as the search for the hidden plan in the economy.

21. "Testing" is meant here as a neutral term. What the exact implications of the testing are and if it is possible to establish the truth of a hypothesis have provided for extensive discussion.

22. The debate released by Friedman's publication dealt with the latter. Here Friedman argues against those who seek realistic axioms to construct their deductive system, i.e., that very unrealistic assumptions frequently produce a usable theory. For that reason he can easily resemble the mainstream with regard to assumptions about economic life.

23. See L.A. Boland, "A Critique of Friedman's Critics", Journal of Economic Literature 17 (1979), pp. 503-512. Although in his methodological justification Friedman may be labelled as an instrumentalist, he is simultaneously someone with a "gospel" for the contemporary situation, judging by his television series, "Free to Choose".

24. Not to mention perhaps the objective of a reasonable income distribution. This reasonableness can be established not only economically but also ethically. In our situation, however, many economists point out that income differentials are too limited for a proper functioning of the labour market. The theoretically established conditions, so to speak, continue to play an important role.
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