

Momentary Equilibrium Versus the Wicksell Connection *

The development of monetary economics is closely associated with a possible conflict between the explanation of relative prices by means of demand and supply as conditioned by substitution and scarcity on the one hand, and the average level of money prices seen as being explained by the supply and demand for money on the other. Classical economists avoided this conflict by postulating a strict independence between the real and monetary spheres in an economy, so that money would be considered as neutral. Recognising, however, that this avoided rather than solved the conflict, many economists have followed Wicksell's lead and restrict monetary economics to the study of disequilibria and adjustment problems. In this view the neutrality of money is a long run phenomenon; in the short run, which is composed of disequilibria associated with the transition between consecutive equilibria, money may influence relative prices. The neutrality of money is thus considered as an endogenous outcome of the operation of the economic system, rather than being assumed for analytical purposes.

This 'Wicksell Connection'¹ has been heavily influenced by Austrian economics. Hayek has played an especially important role in this respect. Under his influence monetary problems have come to be considered as closely related to expectational mistakes and associated dynamic adjustment problems. Influenced by Hayek, Hicks was even led to claim that "the whole problem of applying monetary theory is

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¹ I borrow this terminology from LEIJONHUFVUD (1981). Leijonhufvud, however, uses it to refer to theories which focus on the role of failures to coordinate saving and investment decisions in explaining economic fluctuations. But in his 1981 paper as well as in his further work Leijonhufvud associates his focus on coordination failures with the study of adjustment processes. My use of this terminology may therefore be quite justified. This may be the more so since Hayek, who, in Leijonhufvud's view plays a major role in the Wicksell Connection, considers the study of adjustment processes as one of the main tasks of economic analysis (cf. HAYEK, 1937).

largely one of deducing changes in anticipations from the changes in objective data which call them forth" (Hicks 1935, p. 58). Though Hayek's emphasis on expectational errors and adjustment dynamics appears in many of his writings on cyclical phenomena, it is most evident in his 1937 paper on 'Economics and Knowledge', which, with his *Pure Theory of Capital*, constitutes Hayek's main attempt to explain the linkages between the explanation of cyclical phenomena, and therefore of monetary problems, on the one hand, and the theory of equilibrium based on substitution, scarcity and the consistency of plans on the other. In this paper Hayek in fact suggested that the division of the subject between monetary economics and equilibrium economics was closely parallel to the division between empirical economics and the "pure logic of choice, [or] the tautologies of which formal equilibrium theory essentially consists" (Hayek 1937, p. 33). In his view, assumptions about expectational adjustments, or "the apparently subsidiary hypotheses or assumptions that people do learn from experience, and about how they acquire knowledge... constitute the empirical content of our propositions about what happens in the real world" (*ibid.*, p. 46). Aside from suggesting a clear commitment to the empirical status of economics, to anyone who shares this commitment, Hayek thus seemed to be providing a decisive support of further examination of the Wicksell Connection, implying that progress in economics was limited to investigation of adjustment processes and the expectational dynamics underlying them.

In this paper we hope to show that, although this is a possible interpretation of 'Economics and Knowledge', it is not logically implied by it. On the contrary, the central insight of that paper leads to quite different conclusions which do not imply further consideration of the Wicksell Connection. Rather, 'Economics and Knowledge' constitutes the initial step in the development of a methodology which suggests the impossibility of achieving new empirical insights by focusing on expectational dynamics, and which provides an important reason for adopting a different equilibrium framework from Hayek's 1937 paper. Paradoxically, this alternative equilibrium framework is consistent with the methodology underlying Keynes's *General Theory*. By thus showing the consistency between this central contribution to monetary controversy and the implications of 'Economics and Knowledge' this paper provides a rationale for focusing on monetary controversy outside the Wicksell Connection.

1. Knowledge of how knowledge will be acquired does not lead to empirical progress

Despite Hayek's emphasis on making assumptions about how people change their knowledge and expectations in the light of their experiences, in 'Economics and Knowledge' he in fact did "... not propose to follow this line of approach further" (1937, p. 49). Instead he focused on the question of "how much knowledge and what sort of knowledge the different individuals must possess in order that we may speak of equilibrium" (*ibid.*, p. 50). This made him discover what, in retrospect, Hayek himself (1967, pp. 91-92) considered the main conclusion of 'Economics and Knowledge', namely that the total of knowledge associated with equilibrium will always be dispersed over great numbers of people, each possessing only bits of incomplete or even contradictory knowledge, so that "the really central problem of economics as a social science" (Hayek 1937, p. 50) was how despite this dispersion of knowledge (equilibrium) results could be achieved which could only deliberately be achieved by some directing mind if he possessed a knowledge "which no single person can possess" (*ibid.*, p. 54). Thus, rather than shedding any light on what he considered the empirical content of our discipline, in 'Economics and Knowledge' Hayek developed a new insight which became the corner stone of most of his later writings. In none of them did Hayek show any concern about the specific details of how people derive knowledge from their experience and change their expectations. Rather, they are steps on a "long way..." from his discovery of the above mentioned central task of our discipline "... to an adequate insight into the relations between the abstract rules which the individual follows in his actions and the abstract overall order which is formed as a result of his responding within the limits imposed upon him by those abstract rules to the concrete particular circumstances which he encounters" (Hayek 1967, pp. 91-92).

Hayek's work does not reveal why he did not concern himself with individuals' acquisition of knowledge and their expectational adjustments. However, the insight he discovered in its stead in fact provides a perfect rationale for that failure, inasmuch as concern with the effects of experience on individuals' knowledge and expectations should aim at furthering economics as an empirical discipline. If such effects are unknown, we can hypothesize a tendency towards equilib-

rium, but fail the opportunity to predict any particular detail of the process involved. Nor can we predict any particular detail of its outcome. Instead, it will only be possible to describe the abstract structure of that outcome and predict that such a structure will materialize. The dispersion of knowledge which Hayek discovered, however, implies that even if we did possess knowledge about how people acquire knowledge and change their expectations in the light of their individual fields of experience, we would be unable to determine such fields, and therefore fail to make any specific predictions about disequilibrium processes and their ultimate result. Nor would it be possible to test any such predictions.² Accordingly, knowledge of the dynamics of knowledge and expectations would not lead to additional predictions and the possibility to confront such predictions with experience. In other words, it would not further economics as an empirical discipline. Accordingly, to the extent that this was Hayek's ultimate aim, he was right in proposing to follow a different route.³ Similarly, the dispersion of knowledge implies that the Wicksell Connection cannot be a fruitful basis for achieving progress in the field of monetary economics. Endeavor to achieve such progress should therefore not be cited as an argument in favor of the Wicksell Connection.

2. Dispersion of knowledge and the empirical content of economics

Though Hayek did not explicitly derive the above conclusion, he did acknowledge that the dispersion of knowledge will have important methodological consequences that are associated with the impossibility to make specific predictions about economic processes. Instead of being concerned with the individual elements constituting economic processes, he has come to emphasize that economics can only be concerned

² In addition, it should be noted that different individuals may follow different procedures in acquiring and processing information. Given the dispersion of knowledge it may be impossible to take account of such differences. Instead we may only expect to find the abstract features of how individual's knowledge and expectations are related to their individual fields of experience. This too, however, limits our capability to make specific predictions about disequilibrium processes and their ultimate result.

³ In his 1945 paper on "The Use of Knowledge in Society" HAYEK argued that the dispersion of knowledge implies the impracticability of central economic planning. In fact, our argument means that the research programme associated with 'Economics and Knowledge' is impracticable for the very same reason.

with the abstract structures of possible relations between the individual elements. The structures, or patterns, involved are constituted by general or abstract features that will recur independently of the particular values of the individual data. Given such "pattern predictions", Hayek considers the impossibility for a single person to possess knowledge of all these data to be no impediment for the possibility to make empirical predictions. Instead, in his view, the empirical content of economics consists in what its assumptions forbid. In particular, he considers economics as capable of providing negative predictions, because pattern predictions imply "... that such and such things will not occur and more especially ... that such and such phenomena will not occur together" (1967, p. 32).

From this perspective concern with equilibria does not necessarily prohibit economics from furthering our knowledge. Rather, equilibria are perfect examples of the patterns that Hayek assumes economics to deal with. Increasing our knowledge of the structural features of equilibria and increasing our awareness of the negative predictions they imply may thus contribute to further understanding of the real world.⁴

3. The "laws of the market" and the function of prices

But which concept of equilibrium should we focus on? And should we consider observations that contradict the negative implications of the kind of order chosen for consideration as indicating that we erred in deriving the implications? Or should we consider them as implying that we failed to give an adequate description of the order involved, or were mistaken in assuming a tendency towards that particular order? Obviously, despite Hayek's methodology, and despite the underlying impossibility to predict any detail of economic processes, we are not absolved from making assumptions about the abstract structure of such processes, for we still have to create a basis for deriving theses concerning their ultimate result.

⁴ We should not pretend much more in this respect, for, as SNIPPE (1986b) argues, the negative predictions just mentioned may be difficult to disprove. Accordingly, it may be unjustified to pretend the possibility of empirical progress along the requirements of the prevailing notion of empirical science.

In this respect, rather than focusing on knowledge, expectations and adjustments thereof, Hayek's recent writings emphasize the dependency of competitive processes on the legal framework within which they take place. As indicated in section 1, Hayek considers this emphasis as a sequel to 'Economics and Knowledge'. In his view, individuals' obedience of the rules, and their application to the concrete circumstances known only to them determine the particular outcome of market processes: "It will be through the knowledge of these individuals both of the rules and of the particular facts, that both will determine the resulting order" (Hayek 1982-I, p. 46). Here, no mention is made of any expectational dynamics at all. Instead, it is assumed that a tendency towards order only requires individuals to follow the rules.⁵

The rules underlying market processes are mainly rules delimiting individuals' personal domains, such as the laws of property, contracts and torts.⁶ First and foremost they become manifest in exchange and the prices involved. Adequate understanding of market processes, in order to predict the kind of order they tend to establish, therefore requires us to understand the function of prices. A fundamental contribution to such understanding is constituted by Hayek's 1945 paper on 'The Use of Knowledge in Society', which contains Hayek's famous claim that the chief function of prices is to coordinate individuals' behaviour by "communicating knowledge".⁷ Unfortunately, the phraseology of this claim has proved to be quite misleading, and has recently been understood as suggesting that prices play a dual role as determinants of consumers' budget constraints and producers' profit opportunities on the one hand, and transmitters of information on the other.⁸ Yet, Hayek's own explanations of how prices "communicate" knowledge in fact indicate that there need not be any real communication of knowledge at all, in order for the market process to generate an equilibrium for the economy as a whole. In fact, Hayek describes such an equilibrium as a "solution which (it is just conceptually possible) might have been arrived at by one single mind possessing all the information which is in fact dispersed among all the people involved in

⁵ This might even be taken to imply that whereas individuals' success depends on expectational adjustments, they are no prerequisite for the establishment of spontaneous order. Current spontaneous order is compatible with future losses.

⁶ Cf. HAYEK (1983-II), pp. 123 ff.

⁷ HAYEK (1945).

⁸ This understanding is associated with recent work on rational expectations equilibria with heterogeneous information. Compare GROSSMAN (1981), JORDAN and RADNER (1982), RADNER (1983) and BRAY (1985).

the process" (Hayek 1945, p. 86, emphasis added). Full communication, however, would ultimately make everyone equal to that single mind. Instead of assuming this, already in 'Economics and Knowledge' Hayek cites Morgenstern (1935) to stress that such a state of knowledge might well turn out to be incompatible with the achievement of equilibrium, and in 'The Use of Knowledge' he argues that "the most significant fact about [the price mechanism] is the economy of knowledge with which it operates, or how little the individual participants need to know in order to be able to take the right action" (Hayek 1945, p. 86). Price changes need not reveal why scarcities change. Instead their main function is to induce individuals to change their behaviour "without ... knowing anything at all about the original causes of these actions" (*ibid.*). Indeed, the "marvel" Hayek discovered "is that in a case like that of a scarcity of one raw material, without an order being issued, without more than perhaps a handful of people knowing the cause, tens of thousands of people whose identity could not be ascertained by months of investigation, are made to use the material or its products more sparingly; that is, they move in the right direction" (*ibid.*, p. 87).

This does not deny the possibility that agents may use observations of prices to draw inferences about the information held by others. The recent outburst of literature on the existence of rational expectations equilibria in models where agents possess heterogeneous information, clearly shows, that it is at least conceptually possible that private information will be revealed by prices.⁹ However this literature in fact also shows that such communication of knowledge is highly unlikely. First, it requires very tight restrictions on the dimension of the space of private information (the signal space) relative to the dimension of the price space. Second, the structure of the models involved reveal that it requires the uninformed individuals to know who possess adequate information, whether that information is interesting for the purpose at hand, and how it will induce the well-informed individuals to change their demand and supply relative to prices, a requirement which is unlikely to be fulfilled (given the dispersion of knowledge for which the communication of knowledge is to be a solution). Of course, one might assume that the knowledge involved, too, will be revealed by prices. However, such would probably be inconsistent with the above mentioned restrictions on the dimension of the space of private information.

⁹ See the literature cited in note 8.

Moreover, even if such inconsistency does not exist, the assumption would only be the first step towards an infinite regress, and therefore be incapable of resolving the problem. Accordingly, even though full communication of information by means of prices is conceptually possible, it seems highly unlikely, if not practically impossible, to occur in the real world.

However, even if prices were successful in disseminating knowledge, such would not guarantee the establishment of intertemporal coordination. As Mises (1980, p. 113) put it, "there is no experience of the future", so in this respect there is no knowledge available to be disseminated. Moreover, once prices do fail to transmit information, they cannot be expected to make divergent expectations converge either. They induce individuals to adapt to changing scarcities, but they do not correct the mistaken expectations underlying these scarcities. The adjustments induced, which today seem to be in the right direction, given present scarcities, may tomorrow turn out to be a dramatic failure. Today's scarcities may well depend on expectations that tomorrow's experience proves to be utterly mistaken.¹⁰

Rather than being associated with the dissemination of knowledge, or the capability to make expectations converge so as to establish intertemporal equilibrium, prices merely induce individuals to reallocate their resources over different uses, in the light of their knowledge and expectations, irrespective of whether the latter are mistaken or not. As determinants of consumers' budget constraints and producers' profit opportunities price changes and price differentials induce them to use materials and products more (or less) sparingly. Moreover, in combination with this more (or less) sparing use they determine the difference between individuals' money revenues and outlays, and so imply, *via* the constraint of the balance sheet, that producers who fail to fit present scarcities, and so fail to obey "the laws of the market", tend to be expelled from the market, while the others retain or increase their wealth. "Profit and loss are the instruments by means of which the consumers pass the direction of production activities into the hands of those who are best to serve them" (Mises 1980, p. 123) in their present needs. However, though having been for some time better fit for the functions incumbent upon them than other people were, those who so

¹⁰ The incapability of markets to make different expectations converge has been emphasized before by KEYNES (1936, esp. ch. 12), SHACKLE (1972), LACHMANN (1976, 1978) and STREIT (1984).

receive the control of capital may tomorrow appear to be less clever or more clumsy than other people appear to be. The fact that at the momentary prices being realised sellers and buyers manage to find one another, that they prefer "more to less" and are free to choose given their individual fields of knowledge and the budget constraints determined by the prices involved, rather than measures of success in adjusting expectations, are the crucial elements of the market mechanism.

4. The "laws of the market" should not be associated with an intertemporal equilibrium concept

Hayek's emphasis on the importance of expectational adjustment in 'Economics and Knowledge' was closely linked to the intertemporal equilibrium concept underlying that paper. If, however, the price mechanism associated with "the laws of the market" may (or is even likely to) fail to establish intertemporal coordination of economic activities, there is little reason for focusing analysis on intertemporal equilibrium. Rather, we should aim at a concept of equilibrium, which can be associated with the limited role of the price mechanism discussed in the last paragraph of section 3. In particular, we should focus on an equilibrium structure, which allows for expectations that, although hitherto not having been falsified, may prove to be wrong when the future unfolds. Given its independence of the adequacy of expectations, the *structure* of such an equilibrium might well be described without explicitly bothering about expectations at all.

Hayek in fact does provide us with such a concept. In a recent description of the kind of order which he considers economics to be concerned with, Hayek does not explicitly mention any expectations. Instead, he assumes that, as a result of competitive processes, "...everything will be produced, which somebody knows how to produce and which he can sell profitably at a price at which buyers will prefer it to the available alternatives; second, everything, that is being produced is produced by persons who can do so at least as cheaply as anybody else who in fact is not producing it; and third, that everything will be sold at prices lower than or at least as low as those at which it could be sold by anybody who in fact does not do so" (Hayek 1982-III, p. 74).

These conditions refer to expectations only implicitly. First and foremost expectations are involved in costs. "Cost is that which the

decision-maker sacrifices or gives up when he selects one alternative rather than an other. Cost consists therefore of his own evaluation of the enjoyment or utility that he *anticipates* having to forego as a result of choice itself (Buchanan 1969, p. 14; emphasis added).¹¹ The crucial point of the above conditions, however, is independent of why those who anticipate that production makes them forego more than the anticipated revenues will compensate them for, come to their evaluation. Nor is it dependent on the question whether the anticipations involved will ultimately prove to be correct or not. The only thing that counts is that they refuse to supply at a price low enough to allow them to find buyers. The same applies to the second role of expectations associated with the above conditions, which is their being a motive force, underlying demand. Just as costs, and thus supply, may be dependent on homogeneous and correct as well as heterogeneous and mistaken expectations, so may demand. The existence of demand and supply and the absence of price differences (for the same goods) constitute what really matters.

Being consistent with all kinds of expectations, Hayek's three conditions define a structure, whose abstract features can be described without (explicitly) mentioning expectations at all. Similarly, they do not require any expectational adjustments, in so far as these are concerned with the future which is still to be unfolded. Instead they merely require some overlap of individuals' fields of knowledge, so that price differences will be arbitrated away.¹² Unless the above conditions are fulfilled, individuals will come to reallocate their expenditures and so add to the elected producers' spheres of action (*via* profits) and take from those of others (*via* losses). Moreover, unless the unfolding of the future proves expectations to be consistent with one another as well as with external facts, even the absence of price differences does not make this selective process stop. "It reviews again and again its previous decisions and forces everybody to submit to a new examination of his case" (Mises 1966, p. 311). The winners can retain their position only by receiving again and again confirmation on the part of their customers.

¹¹ On the subjective nature of cost, see BUCHANAN (1969), BUCHANAN and THIRLBY (1983) and VAUGHN (1980). Compare also Mises's discussion of the concepts of profit and loss in MISES (1966) and MISES (1980).

¹² This condition was acknowledged in HAYEK (1945). For recent emphasis on this condition, cf. ABELE (1978) and LITTLECHILD and OWEN (1980).

5. Equilibrium and Keynes's *General Theory*

The only type of equilibrium involved in the establishment of realised prices and quantities underlying profits and losses is an equilibrium between (in the sense of an equality of) the quantity demanded and the quantity supplied at the prices involved. This is exactly the sense of the term equilibrium that was dominant in Marshallian price theory. It has been lost out of sight due to the development of Walrasian economics (in which Hayek's "Economics and Knowledge" in fact reflected an essential step¹³), which also made us fail to acknowledge that this limited concept of equilibrium underlay Keynes's *General Theory*.¹⁴

In accordance with Marshallian price theory, however, Keynes's *General Theory* focused on momentary equilibria of demand and supply. Thus he differentiated himself from the emphasis placed by the Wicksell Connection on period (or sequence) analysis, and in fact suggested that major problems in monetary theory might well be explained outside the Wicksell Connection.¹⁵

Keynes's use of Marshallian concepts was perfectly in accordance with his assumption of "the laws of the market." In this respect he did not differ from Hayek. Although the concept of momentary equilibrium of demand and supply does not require fulfillment of the equilibrium conditions that Hayek described, for analytical reasons Keynes even assumed these conditions to be fulfilled, that is, that production fits demand and that prices reflect the costs of production.¹⁶ The substance of his theory did not require such an equilibrium to be established. For example, the liquidity preference theory of interest and Keynes's views on the relations between investment, saving and finance can be described without making the above equilibrium assumption at all.¹⁷ Making it, however, might be useful in focusing on the motive forces underlying momentary situations in general, and the "causal nexus" between monetary phenomena and the persistence of involuntary unemployment in particular. Typical disequilibrium phenomena such as

¹³ Compare MILGATE (1979).

¹⁴ On the impact of Walrasian economics on the way in which Keynes's *General Theory* has been understood, cf. CLOWER (1975), KREGEL (1982) and LEIJONHUFVUD (1984).

¹⁵ Compare KREGEL (1976) and SNIPPE (1987).

¹⁶ Recall the subjective nature of Keynes's concept of user cost (KEYNES 1936, ch. 6, esp. pp. 69-70).

¹⁷ Cf. SNIPPE (1985a, 1985b and 1986a).

mistaken (short-term) expectations might just obscure them, and should therefore be left out. In other words, Keynes assumed equilibria in order to focus on abstract causal relations which exist independent of the specific content of complicating phenomena, just as Hayek has come to focus on patterns of relationships which exist independent of the individual data underlying economic processes. In doing so, both tried to grapple with complexity: Hayek because the amount of information associated with the complexity of economic processes could never be possessed by a single mind; Keynes in order to "provide ourselves with an organised and orderly method of thinking out particular problems," in which different causal relations are isolated and understood one by one, before going "back on ourselves and allow, as well as we can, for the probable interactions of the factors amongst themselves" (Keynes 1936, p. 297).

In fact, by focusing on situations in which production fits demand and prices reflect the costs of production, Keynes was capable to show his central criticism of classical theory, namely that the "laws of the market" fail to generate full employment unless some assumptions would be satisfied which in fact "are seldom or never satisfied" and which classical theory failed to make explicit (Keynes 1936, p. 378). Indeed by focusing on these "tacit assumptions" Keynes was able to show that involuntary unemployment is not merely a temporary phenomenon associated with the time it takes an economy to adjust to new scarcity patterns, or with the time during which such adjustments are retarded by price rigidities. Rather than accepting either the method or the substance of the Wicksell Connection, Keynes assumed the laws of the market to have worked themselves out, in order to show that markets may work as classical theory assumes, but nevertheless fail to avoid the "public scandal of wasted resources" due to the peculiarities of monetary economies that classical theory overlooked. In other words, in Keynes's view, the understanding of monetary economies might very well be furthered independent of the Wicksell Connection.

The discipline accepted Keynes's equilibrium framework, but made it crystallise into a theoretical framework which, though being identified with Keynes's name, probably incorporated only few of his original insights. Contrary to what some authors have recently suggested,¹⁸ this rather than the equilibrium assumption reduced the *General Theory* to a special case rather than a general theory, and made attention shift away from Keynes's "revolutionary" message. Given the equilib-

¹⁸ HICKS (1976) and KOHN (1983).

rium assumption, mistaken interpretations allowed economists to argue that Keynes's insights depend on the assumption of fixed money wages. In particular, the equilibrium framework became used to represent a system in which money tended to be like a veil rather than a factor of real importance, that is, a system in which momentary situations were described without taking account of the fact that they depend on the past *via* contracts *in terms of money*, and are linked to the future *via* decisions, plans and expectations *in terms of money*.¹⁹ It was only on this basis that the *General Theory* could be reduced to a special case of traditional (neo-)classical theory. Keynes's method was not to blame for that.

6. Momentary equilibrium as a framework to further monetary economics

The "laws of the market" tend to establish situations in which supply fits demand and prices reflect costs, but may very well fail to make an economy converge towards intertemporal equilibria. Expectations that are inconsistent with one another, or, with external facts, are compatible with the former situation, while the absence of such inconsistencies is a defining characteristic of intertemporal equilibrium. Hayek's position concerning the achievements of the "laws of the market" is still ambiguous: while he has recently described their achievements in terms of the compatibility of demand and supply and the reflection of costs in prices; while his own methodology seems to imply the unfruitfulness of focusing analysis on processes through which knowledge is acquired and expectations change; and while he himself has never shown any real concern about such processes, he is still willing to assume that market processes lead to the reduction of the differences between the expected and the actual results of action (Hayek 1983-II, pp. 124 ff.). So while his own writings can be taken to provide sufficient rationale for focusing our attention on an equilibrium concept which is far less restrictive than the intertemporal equilibrium concept of 'Economics and Knowledge', Hayek still fails to drop that latter concept, and keeps using it in his 'Campaign Against Keynesian Inflation' (Hayek 1978, chapter 13) and the associated "obliteration of

¹⁹ On these aspects of monetary economies, see KEYNES (1936), pp. 292-294, KEYNES (1973), pp. 408-409 and KEYNES (1979), pp. 55, 66, 82 ff.

many important insights which we had already achieved and which we shall... have painfully to regain" (*ibid.*, p. 289). And so do many of his fellow-Austrians as well as many others.²⁰

They so fail to acknowledge that the theoretical framework against which they direct their campaigns, aims at showing that their campaigns rest on tacit assumptions that have nothing to do with the existence or absence of intertemporal equilibrium, and are not associated with a research programme which is bound to be empirically fruitless. The assumptions involved, the analysis of which Keynes considered the central problem of monetary economics, still remain obscured by focusing attention on adjustment problems and the imperfections with which they are associated. Adequate understanding of the points at issue in central debate of monetary economics requires us to re-focus analysis on those kinds of momentary equilibrium that the "laws of the market" may tend to establish.

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REFERENCES

- ABELE, H. (1978), "Towards a Neo-Austrian Theory of Exchange," in G. Schwödiauer (ed.), *Equilibrium versus Disequilibrium in Economic Theory*, Dordrecht: Reidel Publ. Comp., pp. 203-212.
- BRAY, M. (1985), "Rational Expectations and Asset Markets: An Introduction," *Oxford Economic Papers*, 37, pp. 161-195.
- BUCHANAN, J.M. (1969), *Cost and Choice*, Chicago: The University of Chicago Press.
- BUCHANAN, J.M. and G.F. THIRLBY (eds.) (1973), *L.S.E.-Essays on Costs*, New York/London: New York University Press.
- CLOWER, R.W. (1975), "Reflections on the Keynesian Perplex," *Zeitschrift für Nationalökonomie*, 35, pp. 1-24.
- GARRISON, R.W. (1985), "Intertemporal Coordination and the Invisible Hand: An Austrian Perspective on the Keynesian Vision," *History of Political Economy*, 17, pp. 309-319.
- GROSSMAN, S. (1981), "An Introduction to the Theory of Rational Expectations under Asymmetric Information," *Review of Economics Studies*, 48, pp. 541-560.
- HAYEK, F.A. (1937), "Economics and Knowledge," *Economica*, 4 (N.S.), pp. 33-54, reprinted in HAYEK (1976), pp. 33-56 (all page references are to the reprinted version).

²⁰ Cf. O'DRISCOLL and SHENOY (1976) and GARRISON (1985) as well as several contributions to the so called New Classical Economics. The question whether markets are capable of making individual expectations converge to one another and to external facts, should be acknowledged, however, as a source of controversy amongst Austrians. Cf. O'DRISCOLL (1978) and LACHMANN (1978).

- HAYEK, F.A. (1941), *The Pure Theory of Capital*, London: Routledge & Kegan Paul.
- HAYEK, F.A. (1945), "The Use of Knowledge in Society," *American Economic Review*, 35, pp. 519-530, reprinted in Hayek (1976), pp. 77-91 (all page references are to the reprinted version).
- HAYEK, F.A. (1967), *Studies in Philosophy, Politics and Economics*, London: Routledge & Kegan Paul.
- HAYEK, F.A. (1976), *Individualism and Economic Order*, 1st reprint, London: Routledge & Kegan Paul.
- HAYEK, F.A. (1978), *New Studies in Philosophy, Politics, and the History of Ideas*, London: Routledge & Kegan Paul.
- HAYEK, F.A. (1982), *Law, Legislation and Liberty, A New Statement of the Liberal Principles of Justice and Political Economy*, London: Routledge & Kegan Paul, Joint edition: Volume I: *Rules and Order*; Volume II: *The Mirage of Social Justice*; Volume III: *The Political Order of Free People*.
- HICKS, J.R. (1935), "A Suggestion for Simplifying Monetary Theory," *Economica*, 3 (N.S.), reprinted in *Collected Economic Papers, Volume II: Money, Interest and Wages*, Oxford: Basil Blackwell, pp. 46-63 (all page references are to the reprinted version).
- HICKS, J.R. (1976), "Some Questions of Time in Economics," in A.M. Tang, F.M. Westfield and J.S. Worley (eds.), *Evolution, Welfare and Time in Economics*, Essays in Honor of Nicholas Georgescu Roegen, Lexington: Lexington Books, pp. 135-152.
- JORDAN, J.S. and R. RADNER (1982), "Rational Expectations in Microeconomic Models: An Overview," *Journal of Economic Theory*, 26, pp. 201-223.
- KEYNES, J.M. (1936), *The General Theory of Employment, Interest and Money*, London: Macmillan.
- KEYNES, J.M. (1973), *Collected Economic Writings*, Volume XIII, London: MacMillan.
- KEYNES, J.M. (1979), *Collected Economic Writings*, Volume XXIX, London: MacMillan.
- KOHN, M. (1983), *Monetary Analysis, The Equilibrium Method and Keynes' General Theory*, Dartmouth College Working Paper 83-21, Hanover.
- KREGEL J.A. (1976), "Economic Methodology in the Face of Uncertainty," *Economic Journal*, 86, pp. 209-225.
- KREGEL J.A. (1982), "Microfoundations and Hicksian Monetary Theory," *De Economist*, 130, pp. 465-492.
- LACHMANN, L.M. (1976), "From Mises to Shackle: an Essay on Austrian Economics and the Kaleidic Society," *Journal of Economic Literature*, 14, pp. 54-62.
- LACHMANN, L.M. (1978), "An Austrian Stocktaking" in Spadaro, L.M. (ed.), *New Developments in Austrian Economics*, Kansas City: Sheed Andrews & McMeel, pp. 1-18.
- LACHMANN, L.M. (1983), "John Maynard Keynes: A View from an Austrian Window," *South African Journal of Economics*, 51, pp. 368-379.
- LEIJONHUFVUD, A. (1981), "The Wicksell Connection: Variations on a Theme," in *Information and Coordination*, New York: Oxford University Press, pp. 131-202.
- LEIJONHUFVUD, A. (1984), "Hicks on Time and Money," *Oxford Economic Papers*, 36, supplement: Economic Theory and Hicksian Themes, pp. 26-46.
- LITTLECHILD, S.C. and G. OWEN (1980), "An Austrian Model of the Entrepreneurial Market Process," *Journal of Economic Theory*, 23, pp. 361-379.
- MILGATE, M. (1979), "On the Origin of the Notion of 'Intertemporal Equilibrium'," *Economica*, 46, pp. 1-10.
- MISES, L. (1966), *Human Action. A Treatise on Economics*, 3rd revised edition, Chicago: Contemporary Books.
- MISES, L. (1980), *Planning for Freedom*, 4th edition, South Holland (Ill.): Libertarian Press.
- MORGENSTERN, O. (1935), "Vollkommene Voraussicht und Wirtschaftliches Gleichgewicht," *Zeitschrift für Nationalökonomie*, 61, pp. 337-357.