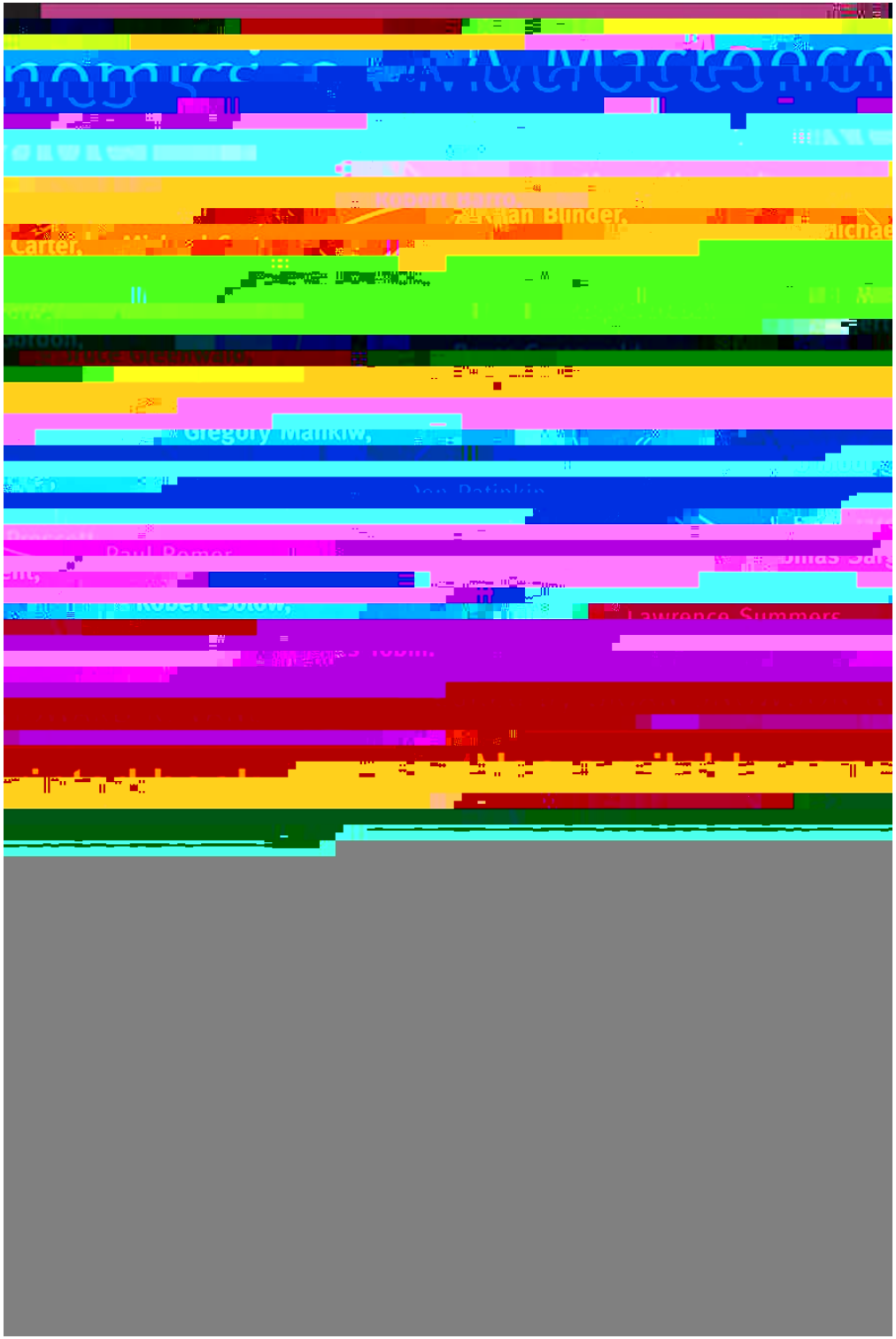

14 The new-classical contribution to macroeconomics

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INTRODUCTION

Macroeconomics is prone to 'revolutions'—intellectual upheaval in which some new idea or ideas claiming to establish fresh and valid insights into the workings of the economic system sweep away a prevailing orthodoxy. Since the mid-1930s the 'Keynesian revolution' has overwhelmed 'classical economies' so-called, to be succeeded in turn by a 'monetarist revolution' which seemed to overthrow 'Keynesian' economics. Since the early 1970s 'monetarism' has in turn yielded to a 'new-classical revolution' which self-consciously, and much more thoroughly than monetarism, has sought to reestablish macroeconomics on foundations that bear a close resemblance to those of certain strands in pre-Keynesian economics.[1] In every case, the superiority of the 'new' approach has undoubtedly been oversold by its adherents, but, at the same time, insights and tools of lasting value have also been added to the corpus of economic knowledge.

This chapter is devoted to assessing new-classical ideas, and to asking what of lasting importance this school of macroeconomics has contributed since the early 1970s. It deals in turn with the relationship between new-classical economics and monetarism, the relative explanatory power of these two bodies of doctrine over empirical evidence, and the claims of new-classical economics to embody a superior analytic method. It argues that, although the particular ways in which new-classical macroeconomics has applied its basic ideas, notably in its insistence that the interaction of the maximizing behaviour of individuals be analysed in the context of continuously clearing markets, and that agents' expectations be represented by the predictions of the true model of the economy in which they operate, are unnecessarily restrictive, its stress on equilibrium behaviour conditioned by the state of individual agents' expectations as a basis for macro modelling is nevertheless valuable, and has been salutary for the discipline.

MONETARISM AND NEW-CLASSICAL MACROECONOMICS

New-classical macroeconomics was initially a response to the inflation of the 1960s and 1970s, and to monetarist analysis of that inflation. Indeed, in its

earliest manifestations, it appeared to be nothing more than an attempt to restate monetarist analysis with greater rigour than its pioneers—notably Milton Friedman—had achieved.[2] In order to put matters in perspective it will be helpful to recall the nature of the intellectual problem which that inflation created for most macroeconomists. Quite simply the empirical evidence it generated proved to be utterly inconsistent with then prevailing Keynesian views about how the economy worked, and about how policy could be used to improve its performance. Expansionary demand side policies, predominantly fiscal, could, according to that orthodoxy, generate lasting reductions in unemployment at the cost of somewhat higher, but nevertheless stable, inflation. When the Keynesian experiment occurred, it failed.[3] Gains in output and employment, where they materialized at all, proved to be temporary, and inflation, instead of shifting once to a new higher level, rose continuously.

Monetarist macroeconomics (whose components were available before the event, be it noted) explained these facts by arguing: first that Keynesian orthodoxy had underestimated the role of the quantity of money as an influence on aggregate demand in general and the behaviour of prices in particular; and second that the idea of a stable inflation-unemployment trade-off—the Phillips curve—was based on an implicit assumption that the private sector of the economy suffered from perpetual money illusion. To the pressure of aggregate demand as a proximate influence on the inflation rate, Friedman (1968)—not to mention Phelps (1967)—added the expected rate of inflation. Furthermore, because Friedman viewed inflation expectations as deriving from past experience, and as being formed in such a way that expectations would in fact come to catch up with experience eventually, he argued that any attempt to reduce the unemployment rate below that determined by the normal frictions inherent in the labour market would lead, in the long run, not to higher, but to rising, inflation.

From the point of view of policy prescriptions and empirical judgements about the reliability of particular functional relationships in the economy, monetarism presented a clear alternative to Keynesian orthodoxy, but constituted no radical theoretical challenge to it. Keynesian models already contained a demand for money function, and if monetarism was correct in arguing that this relationship was more stable than had in the past been believed, such a modification could easily enough be accommodated.[4] If expected inflation belonged as an extra variable in the Phillips curve, and depended upon the past behaviour of inflation, that would alter one's view of what demand management policy could accomplish, but it did not require any fundamental change in economists' vision of how the economy worked. There is no stronger evidence in favour of the latter judgement than the fact that the first explicit monetarist analytic models were recognizable extensions of the IS-LM model.[5] Moreover large-scale Keynesian econometric systems proved easily able to absorb monetarist ideas as well.

The difficulty here was that the new version of the Phillips curve was hardly more satisfactory than the old one from an analytic point of view. Though the proposition that money wages and prices tend, given expectations, to rise faster the higher the level of aggregate demand in the economy, might be a plausible enough empirical generalization, it does not constitute an explanation of the phenomenon which relates it to the purposeful maximizing behaviour of individual economic agents. The monetarist 'expectations-augmented Phillips curve' was an empirical observation in need of an explanation, not a well grounded structural relationship in its own right. In attempting to provide an explanation of it, new-classical economists, and in particular Robert E.Lucas Jr (1972), set in motion the 'New-Classical Revolution', based upon two analytic devices, namely the aggregate supply curve and the rational expectations hypothesis.[6] Though the rational expectations idea has probably attracted more attention, it is its use of a particular version of the aggregate supply curve which constitutes the most fundamental innovation of new-classical economics. Keynesian macroeconomics (including its monetarist variation) can accommodate rational expectations, but it cannot be reconciled with the universal existence of the continuously clearing flexible price competitive markets which are a *sine qua non* of the 'aggregate supply curve' explanation of the Phillips curve.

Sticky prices lie at the very heart of Keynesian macroeconomics, and it explains quantity fluctuations in goods and labour markets as equilibrating movements arising because prices do not immediately change when aggregate demand shifts. The postulate of price flexibility lies at the centre of new-classical economics. It has it that prices always move to equilibrate markets when demand shifts, but that individual agents, who are not fully informed about the behaviour of all money prices in the economy, mistake money price changes in the markets for the goods they sell for relative price changes. Hence they respond by changing the quantities of goods they supply. In the aggregate, an unperceived demand increase which raises the general price level therefore causes an expansion of output along an aggregate supply curve, and a fall of demand causes a contraction. Output and employment fluctuation such as we observe in the real world are, according to new-classical economics, voluntary responses to misperceived price signals. They occur because prices change. Keynesian economics (including its monetarist variant) explains quantity changes as occurring because prices do not change fast enough to keep markets cleared. In this vital matter the contrast between the two approaches could not be more stark.[7]

Now the clearing markets hypothesis of new-classical economics is logically compatible with the idea that expectations are naively extrapolated from past experience, but the use of the two ideas in conjunction certainly strains credulity. If agents are in no way tied down by sticky prices, and make costly errors in quantity decisions because of faulty expectations about

the behaviour of prices in markets other than those in which they are currently active as sellers, they have every incentive to make their expectations as accurate as possible, and to use all available information in order to do so. Maximizing agents should be presumed to form expectations, as Sargent and Wallace (1973:328) put it, so that they 'depend, in a proper way, on the same things that economic theory says actually determine that variable'. Hence, though the literature of the 1960s and early 1970s does contain examples of models which combine clearing markets with adaptive expectations, such hybrids soon vanished to be replaced by a substantial body of new-classical theory, based upon the twin hypotheses of clearing markets and rational expectations.[8]

THE CASE FOR NEW-CLASSICAL MACROECONOMICS

Economists have no clearly agreed criteria for deciding among competing bodies of theory, but certain factors are widely accepted as being relevant. The ability to explain past events, or (even better) to forecast future ones, is highly valued, as is the closely related capacity to yield insights into the nature of policy options available, and into the likely outcome of whichever option is chosen. Also important are matters of logical coherence, and intellectual compatibility with other available and accepted doctrines. Proponents of new-classical macroeconomics have, at various times, claimed it to be superior to Keynesian and monetarist alternatives on all three criteria.[9]

As will already be apparent, I quite agree that the western world's experience with inflation and unemployment of the 1970s constitutes a massive refutation of 'Keynesian economies' as the term was understood in the mid-1960s. Nor would I deny that the new-classical macroeconomics of the late 1970s, emphasizing as it did the role of the quantity of money in generating inflation, and the crucial role played by expectations in the inflationary process, provided a superior explanation of that experience. If we were forced to make a choice between these two alternatives alone, we would have to accept the claims of Lucas and Sargent (1978) that their brand of macroeconomics is the only respectable one available. However, we are not forced to make this choice.[10]

Before the inflation of the 1970s was dreamed of, monetarists, such as Friedman (*e.g.* 1959) and Brunner and Meltzer (*e.g.* 1963) had been attacking Keynesian orthodoxy for underestimating the importance of the quantity of money. Furthermore, Friedman and Phelps (surely no monetarist) had, as we have seen, criticized the idea of a permanent inflation-unemployment trade-off in the mid-1960s on the grounds that the behaviour of inflation expectations, themselves endogenous to the structure of the economy, would render any such trade-off temporary. As we have also noted, however, these ideas could be, and eventually were, easily incorporated into otherwise orthodox Keynesian models, but Keynesian models *so modified* do

very well indeed in explaining the 1970s.[11] A system in which prices are sticky (though not rigid), in which quantities change to absorb demand side shocks in the short run, and in which inflation expectations though mainly backward looking, are endogenous, can account for the 1970s experience at least as well as any new-classical system based on price flexibility, clearing markets and rational expectations. To put it in terms of labels, the empirical experience of the 1970s does not force one to reject the 'monetarist' variation on the 'Keynesian' model and embrace 'new-classical macroeconomics'.

The methodological criteria proposed by new-classical economists in defence of their work have much in common with those sketched above, and implicitly or explicitly adopted by economists in general. If they did not, it would be hard to explain why their arguments have proved so widely persuasive. However, though claims to superior predictive power, and to deeper insights into the nature of economic policy processes, have certainly been made from time to time on behalf of new-classical macroeconomics, it has also, from the very outset, been presented as the product of a major advance in the application of analytical methods; and, with the passage of time, its proponents have come to place increasing emphasis on this last factor, claiming that their macroeconomics is more logically coherent and more closely related to micro theory than anything which went before it. It is certainly true, as we shall now see, that these are the strongest arguments in favour of new-classical economics.

To begin with, and uncontroversially, new-classical economists tell us that an important purpose of macroeconomic models is to deduce predictions about the behaviour of an economy when subjected to various shocks. Equally uncontroversially, they argue that key components of such a model should be logically coherent and well tested propositions about the behaviour of individual agents. That these propositions about individual agents should in turn be derived from analysis of rationally purposeful utility maximizing behaviour might be less universally accepted, but I do not wish to quarrel about this particular principle.[12] Reasons for controversy begin to arise only when we seek an institutional framework in terms of which it is possible to derive coherent predictions about the behaviour of the economy as a whole from knowledge of individual behaviour, and I shall argue in due course that the particular choice made at this point by the new-classicals is not the only respectable one available to us.

Be that as it may, new-classical economists propose that we model agents as operating in an environment of perfect competition, in which markets costlessly adjust to maintain the supply and demand for every good and service, not least labour, in constant equilibrium. Their competitive model differs from traditional treatments of perfectly competitive economies inasmuch as agents in it do not have full information about the structure of relative prices when they engage in trade. The demand and supply schedules which determine the equilibrium structure of market prices in a new-classical model are conditional, not upon full and accurate information about that

same structure of market prices, but upon agents' perceptions (expectations is the more commonly used word) of that structure. Because agents are supposed to be purposeful rational maximizers, they form their expectations so that they differ from the actual values of the variables in question only to the extent of a serially uncorrelated random error. For agents to operate on the basis of any other kind of expectations would result in them encountering unnecessary losses, and hence in violating the purposeful utility maximization assumption.

The 'rational' approach to modelling expectations formation has been translated by new-classical economists into the postulate that agents form expectations 'as if they were fully informed about the structure of the economy in which they operate, and make mistakes only to the extent that the economy is subjected to random exogenous shocks, either in the form of 'policy surprise'—any systematic component of policy behaviour being, and being perceived to be, part of the economy's structure,—or in more recent literature, random fluctuations in technology, 'real shocks' as they are called. In such a framework, given currently (and only rather recently) available analytic techniques, it is possible to derive predictions about the aggregate behaviour of the economy directly from premises concerning individual behaviour. More to the point, these predictions in certain important ways mimic the behaviour of real world economies, specifically in the matter of co-movements of money wages and prices and quantities of employment and output over the course of the business cycle, and indeed the very fact that new-classical macroeconomics involves the exploitation of these new analytic techniques is sometimes advanced as an argument in its favour.[13]

The really critical point, however, as far as the proponents of new-classical economics are concerned, is that the above-mentioned analytic techniques, in their current state of development, can be used to derive macro-predictions with empirical content from nothing but well specified micro-premises only on the assumptions of representative agents operating in competitive markets cleared by flexible prices. A model which postulates some form of wage or price stickiness inevitably involves the use of some (allegedly) *ad hoc* element in forming the link between micro-postulates and macro-predictions. This is not because there do not exist models of individual maximizing behaviour that explain price stickiness, because there obviously do, but because our current analytic capacity does not permit us except in exceptionally simple examples (*e.g.* Howitt 1981) to embed such behaviour in a model of the economy as a whole, to allow for the way in which such behaviour might influence expectations, and then explicitly to derive macro predictions.

As a result, those who wish both to postulate phenomena such as price stickiness and to build models with empirical content, are led to introduce qualitative empirical 'laws' into them and to permit the data to find quantitative values for the parameters which characterize these 'laws'. One way of looking at the issues at stake here is in terms of alternative strategies

for evading that perennial barrier to truly rigorous macroeconomics, the aggregation problem. The new-classical assumptions of representative agents plus perfect competition certainly permit clearly defined links to be established between individual and market experiments without recourse to empirical laws, but those links are only as defensible as the assumptions that permit them to be forged.

Even so, if we regard the presence of 'free parameters', as Lucas (1980) calls them, in a model to be a fatal drawback, then new-classical macroeconomics, with its assumptions of universal competition among representative agents, perfect price flexibility, and rational expectations, has no rivals. If it is objected that perhaps empirical evidence might nevertheless have a role to play in such a judgement, the answer offered by the proponents of new-classical economics, notably Lucas (1980), is that, since their basic model uses no 'free parameters', a model which fits the facts better, or at least as well, can always be constructed by adding one (or more) such parameter to a basic new-classical system. Economic models are not supposed to be descriptions of all elements of reality (whatever that might be); and to show that greater descriptive accuracy may be achieved by the addition of free parameters is said to be neither surprising nor compelling as an argument against new-classical economics. I shall now turn to an examination of this argument.

EMPIRICAL EVIDENCE AND 'FREE PARAMETERS'

I remarked earlier that there is no completely agreed set of methodological criteria for judging economic models. As a matter of simple logic, it cannot be denied that, if rigorous connections between maximizing premises and ultimate conclusions is regarded as the be all and end all of economic analysis, then new-classical macroeconomics is indeed the only game worth playing. The most that individuals who deny this viewpoint can do is explain why they think that other criteria are relevant, show how the criteria support their position, and hope that their reasoning will be taken seriously. Such is my purpose here.

My starting point is that the ultimate aim of economic theory is to explain observations, in the sense of deducing statements which describe such observations from more general premises. Moreover, and quite crucially, such premises should also yield other statements whose truth is not contradicted by the facts. The more general the predictive power of a set of premises (and the more propositions about purposeful maximizing behaviour, and the fewer theoretically unsupported generalizations relying upon 'free parameters' there are among them) the better. An economics which can deduce true predictions about all the phenomena that might interest us from nothing but premises about maximizing behaviour is presumably the ideal towards which we are all striving. That we are unlikely to achieve this ideal is not the point, though. Rather it is that, even if we did stumble upon it, we

could never know this. The most we can ever be sure of about our models is that they have not been contradicted by evidence gathered to date. In the very nature of things we can never know that they are true in the sense that they never will be contradicted.

As a practical matter we must always be more concerned with criteria for choosing among less than ideal theories than with laying down unattainable and non-operational standards of theoretical perfection. For this rather humdrum task, primacy must be accorded to empirical evidence, because it is surely uncontroversial that a theory which makes systematically false predictions about some phenomenon is itself false, and in need of modification, no matter how closely it satisfies other criteria.[14] Even so we must be careful when we advance this last proposition not also to demand that a theory's predictions be 'descriptively accurate'. A theory may abstract from all manner of phenomena, have nothing to say about them, and hence be 'descriptively inaccurate' (or incomplete), but that does not make it false. The question of falsity only arises when a theory yields definite predictions about some phenomenon which turn out to be untrue. Descriptive inaccuracy is an inherent quality of any abstract model; but falsity is not. To use a standard platitude of the elementary logic class as an illustration, the reason why the proposition 'all swans are white' is false is not that this statement fails to mention feathers, and into the bargain has nothing to say about ducks; rather it is that some black swans do exist.

My reason for denying the inherent superiority of new-classical macroeconomics is not, therefore, that there might be interesting facts from which it abstracts and about which it has nothing to say; rather it is that it makes false predictions about the very phenomena with which it purports to deal, and that if it is to be rescued, parameters every bit as 'free' as those utilized in the Keynesian (or monetarist) alternative seem to be required. The original task which new-classical economics set itself was to provide a foundation in qualitative microeconomic reasoning for Friedman's propositions about the temporary nature of the inflation-unemployment trade-off. The fact that it succeeded in doing so is, however, not an empirical argument in its favour. That statements describing a set of already known facts may be deduced from a model is evidence, not of its truth, but of the logical skills of the person who constructed it. An empirical test arises only when conclusions yielded by the same model about facts not used to discipline its construction, and better still, initially unsuspected, are compared with those facts.[15] Here, new-classical economics finds itself in trouble.

To begin with, it gets rid of the free parameter linking money wage and price changes to 'excess demand' by postulating that the Phillips trade-off reflects, among other parameters of the system, the elasticity of the supply of labour with respect to real wages. In doing so it yields a testable prediction about the quantitative relationship between inflation and employment fluctuations. Empirical evidence shows that the relative amplitudes of those

fluctuations do not square up with what we think we know from micro-studies about this supply elasticity. Aggregate employment fluctuations seem to be systematically much too large relative to inflation fluctuations to be treated as movements along a supply curve of labour when the labour force misperceives nominal wage changes as reflecting real wage changes, and hence to be accounted for along new-classical lines. Closely related, the nature of the interaction of employment and real wages over the business cycle is hard to reconcile with the new-classical postulate that the real wage is always equal to the marginal product of labour and that employment fluctuations involve movements along a downward sloping marginal product schedule.[16]

In a new-classical world, quantities change because prices fluctuate. Output and employment should therefore vary at least simultaneously with (or perhaps lag behind) the price level; but it is a stylized fact of real world business cycles that quantity changes seem to precede associated price level changes. Moreover, if the price level is free to move to keep the supply and demand for money in equilibrium, the economy should always be on its long-run demand for money function; but empirical observations suggest that the economy is often and systematically 'off this relationship for extensive periods of time.[17] In the early 1980s, predictions about all of these phenomena were put to the test in one real world experiment which was surely just as damaging to the new-classical economics of the 1970s as the experience of the 1970s was to the Keynesian orthodoxy of the 1960s. Then, in a number of countries, sudden, but nevertheless well publicized, monetary contractions were followed by unusually low real balances (relative to the values of the variables determining their demand), rapid and severe output and employment contractions, and only later by price and money wage responses; according to new-classical economics they should have generated price changes on the spot, and, being well publicized, only a rather mild quantity response.[18]

The new-classical economist does of course have answers to all of these questions. To begin with, monetary contraction will only have its major effect on prices if it is expected that the authorities will persist with such a policy. The policy must, that is to say, be credible if it is to influence behaviour by way of its effects on expectations. In a new-classical model the less credible is a policy, the more will the price level changes it generates be misread for relative price changes, and the larger will be the quantity responses. Perhaps policy was not, despite the publicity, credible in the early 1980s. As to the arrival of quantity changes before price level responses this could have been the result either of our observations of the price level being unreliable, because they are based upon posted prices rather than those at which trade 'really' took place, or because the downturn in question did not stem from monetary contraction after all, but from some exogenous contractionary shift on the supply side of the economy. Why were economies apparently 'off' their demand for money functions? Perhaps these functions