

Introduction

INTRODUCTION: DIFFERENT POINTS OF VIEW

John Maynard Keynes's macroeconomic theory was developed in the interwar period as a reaction to great imbalances in economic development, nationally and internationally. Up to and following the First World War, there were significant variations in respect to inflation, unemployment and the national budgets.

The macroeconomic imbalances of this time were to a certain degree self-amplifying in that they contributed to creating an atmosphere of uncertainty on all societal levels, particularly concerning what the future would bring, economically and politically. Lacking a macroeconomic-theoretical basis, politicians were advised to re-establish the economic world order that had dominated in pre-war times in the major economies of the UK, the USA, France and Germany.¹ The aim was for the international economic system to function the way it did before 'the world got off track'. Unfortunately, it became clear during this interwar period that the macroeconomic system lacked stability: high inflation was followed by a sharp drop in prices; unemployment was rampant and there were recurrent currency crises.

The macroeconomic thinking at that time did not really differentiate between theories for personal households, the state budget and the national economy; rather, they were lumped together. As Adam Smith, back in 1776, had stated: 'What is prudence in the conduct of every private family, can scarce be folly in that of a great kingdom' (Smith, 1776 [1976]: 457). On this point, Smith was not correct, as seen in Keynes's groundbreaking discoveries in macroeconomic method in the 1930s: drawing a parallel between micro- and macro-levels brings with it the risk of committing the so-called fallacy of composition (atomistic fallacy) (see Chapter 7). Macroeconomic developments, an example being unemployment, cannot be fully explained via a theory concerning optimal microeconomic behaviour. This leads us to the need for a distinct macroeconomic theory, furthermore demanding an explicit methodological basis, allowing for a holistic explanation rather than a summation of individual activities.

In the first decade after the First World War, politicians, following the advice of economic experts, tried to create economic stability through the use of 'classic' economic arguments and institutions: balancing the public budgets, re-establishing the gold standard, and exercising tight controls over the money supply through discount rate adjustments. Balance, or better still, surplus on the state budget (so that national debts accrued during the war could be repaid), was not up for discussion.² It was seen as an intrinsic welfare gain to make the state debt-free. To reach external stability, the international gold standard was seen as the anchor that could re-establish equilibrium on the balance of payments. And finally, through controlling the money supply, the aim was to create a national financial anchor to slow inflationary forces. In such case, when the national budget, current account deficit and inflation were under control, persisting high unemployment (which was the situation in Europe in the 1920s) could only be attributed to wage-earners refusing to accept the necessary reductions in money wage levels. Unemployment was not seen to be a macroeconomic problem; rather it was seen as a microeconomic problem stemming from a lack of adequate competition and flexibility in the labour market (see *inter alia* Pigou, 1933).

A balanced state budget, combined with a stable price level and the currency rate bound to the gold standard, were together expected to create a stable environment around the socio-economy. Unemployment could only, as mentioned, be attributed to labour being too expensive. If wages were stuck at too high a level, then it would not pay for firms to employ the entire labour force. Therefore, a reduction of unemployment demanded a lower wage level. Such was the economic advice of the time. It meant a lower real wage, which the employed wage-earners at the time understandably opposed; yet the state refused to budge. When the reduction of unemployment came to be seen as a microeconomic question, it was then up to the partners in the labour market to find a solution. Or rather, the solution was seen as the responsibility of the 'working class', which opposed a reduction in real wages, making unions stand out as being (morally) responsible for unemployment.

The economic thought of the time was dominated by the neoclassical equilibrium model,³ which until the early 1930s was not really theoretically challenged in the English-speaking world. The empirically inspired challenge caused the paths of development within macroeconomics to split into the two separate schools of methodology: respectively, the neoclassical equilibrium school and the 'uncertainty' school, the latter mainly with inspiration from Keynes's writings of the 1930s and carried on by the post-Keynesian school.

NEOCLASSICAL MACROECONOMIC METHODOLOGY: KEY TERMS

Partial Equilibrium

The dominating (macro)economic reasoning in the interwar period was derived from the neoclassical market economic theory, which did not differentiate specifically between the micro- and macro-level. Macroeconomics was understood as a summation of individuals' (households' and firms') dispositions coordinated via a well-functioning market system. Within each well-functioning market, a well-defined equilibrium was found, where the supply and demand curves met. This was called partial (market) equilibrium. If no hindrances counteract the adjustments of market prices, wages and interest rates, then it was demonstrated that each and every market will reach such a partial equilibrium. When all markets are in equilibrium, then the entire macroeconomy is defined to be in equilibrium – the so-called 'general equilibrium'.

Partial equilibrium and analyses were the core of Alfred Marshall's *The Principles of Economics*, first published in 1890, which was the backbone of neoclassical theory that dominated the economic teachings in England until the 1930s. True macroeconomic theory was unknown, with the exception of the 'Quantity Theory', which postulated a narrower causal relationship from changes in the money supply to the development of the aggregate price level (see Estrup et al., 2004). The macroeconomic reasoning at that time was based upon a generalization of partial market equilibrium models.

Quantity Theory

The 'Quantity Theory of Money and Prices' had already been developed by the classical economists near the end of the 1700s. It linked the quantity of money (from where it gets its name) to the absolute price level. At this time, the logic was that the amount of (monetary) gold determined the absolute purchasing power of the society. The amount of goods available – predominantly then agricultural production – was (largely) constant. Should the quantity of gold be increased – as was the case after the discovery of South America – then prices must rise accordingly; otherwise the market system would never again reach a new and balanced equilibrium. In the interwar period, the argument was refined to include the balance of payments. The increased purchasing power would either force prices to rise or increase imports from abroad. It would create a deficit on the balance of payments, which would then slowly drain the country of its

gold until purchasing power was once again equal to equilibrium on the balance of payments.

The quantity theory was the ‘missing link’ that could explain how the national market economic system could establish both internal and external equilibrium through the adjustment of price levels and via changes in the money supply (determined by the gold supply).

This total market economic system is a beautiful construction: if only there was perfect competition on all markets, then general equilibrium would exist, ensuring harmony, balance and full utilization of society’s scarce resources. The inspiration from Newton’s astronomical model is undeniable.⁴

The General Equilibrium Model

This market economic system was set into mathematical formulae by Frenchman Léon Walras (1874 [1954]). He linked the individual markets together by making explicit the inter-relationship between demand in one market and supply in at least one other market. The typical example is that the household which demands some goods simultaneously must supply labour to be able to finance the purchases. If there is an excess demand within one market, then according to Walras’s logic there has to be a similar excess supply in another market. If we now use the aforementioned example of the agricultural society, the excess demand for corn will make the price of corn rise, reducing the purchasing power of the money supply and thus reducing the excess supply of (real) money. In the industrialized society, a rise in consumer prices will erode the purchasing power of money wages. This adjustment of purchasing power via the change in the real value of money and of the real wages of labour will re-establish equilibrium in both the goods and labour markets; for if there were only two markets, then equilibrium in the one (net excess demand = zero) means equilibrium in the other (net excess supply = zero). Walras generalized this logical implication to include all (n) markets. Regardless of the fact that a surplus of demand could be spread over numerous markets, it would still hold true that there must be an aggregated surplus of supply of exactly the same magnitude in the other markets considered as a whole, as the market actors surely must finance their planned purchases. For Walras, the significant result was that, by adding some further assumptions about the mathematical formulation of the equations, he could demonstrate that a price vector existed (meaning, could be calculated), including the prices on all markets. This price vector contained the solution to the mathematically formulated system. The solution ensured that excess demand and supply could be nullified on every market. This mathematical solution is

characterized as a general equilibrium, in that there are no private economic incentives to change the behaviour of firms and households, while at the same time it ensures an overarching macroeconomic balance: equilibrium of the public budgets, the balance of payments, full employment and no inflation.

The Existence of General Equilibrium

The importance of this proof of the existence of general equilibrium in a well-organized market system can hardly be overestimated in the history of economic theory. It constitutes the axiomatic framework within which neoclassical macroeconomic theory has since been developed. There is a straight theoretical-historical line from Walras's original equations to the more refined, Arrow–Debreu model from the 1950s, which could be used specifically for uncovering the conditions for the existence of an even more general equilibrium, which was broadened to include the formation of prices of future economic transactions, in correspondence with actors' expanded planning horizons and expectations with regard to demand and supply.

Parallel to the mathematical analysis of this idealized market system contained in the Arrow–Debreu model, the neoclassical school developed more pragmatic macroeconomic models for use in policy analysis. All share in common a belief that the market economic system has a general equilibrium solution that market forces by themselves (via perfect competition) are able to establish. Neoclassical (macroeconomic) theory of the post-war period has as a shared feature that a general equilibrium exists, which is characterized by full resource utilization and macroeconomic balance, and is a relevant tool for understanding how a modern market-based economic system functions. This assumption, as will be thoroughly discussed in the following chapters, has dictated the neoclassical school's macroeconomic conclusions and thereby its policy recommendations.

Can a General Equilibrium be Realized?

To what degree does a price vector that can ensure one unequivocal solution to a market-economic system even exist? This is an interesting system-theoretic question (Arrow and Hahn, 1971). But it would be of more practical relevance to investigate if the market-economic system, starting out of equilibrium, would be able to adjust itself in the right direction and (re)establish a general equilibrium. In other words, which adjustment mechanisms can be assumed to work outside prior equilibrium?

One example is the Walrasian *tâtonnement* process, where through a trial and error process excess supply and demand functions in the different

markets are reduced and in the end become zero. If all actors had the same information, which is the case when perfect competition is prevailing, then this *tâtonnement* process is assumed to converge to a general equilibrium. The crucial assumption is that when agents know the $n-1$ (correct) equilibrium prices, and if the excess demand functions are ‘well behaved’, then the *tâtonnement* process (under ideal conditions, including the absence of transaction costs, and so on) will establish equilibrium in the n th market, whereby general equilibrium is ensured. Furthermore, this general equilibrium was assumed to correspond to the solution of the mathematical system of market equations, where the sum of net excess demand functions adds to zero. This market system condition was at a later stage given the name of ‘Walras’s Law’ expressing that whenever $n-1$ markets were in equilibrium, then the n th market would also, by definition, be in equilibrium (Hansen, 1970).

The natural starting point for a more realistic market analysis is, though, as mentioned, a situation where imbalances persist in multiple markets. The price information acquired by actors is essentially plagued by imbalances and has a much more random nature, as there is no established theory for the creation of prices on markets which are out of balance. This means that the equilibrium prices, which the ‘existence vector’ uses as information conditions, are unknown until equilibrium has been realized. Sonnenschein (1972) has shown that given the lack of perfect information concerning correct prices out of general equilibrium, one cannot conclude that a smooth-working *tâtonnement* process based on excess demand and supply functions exists outside of equilibrium. The prices – namely those concerned with future transactions – which actors perceive as a basis for their economic behaviour will not be uniform; rather, they are dependent on the price signals sent by the market participants at large, and the individual formation of expectations. Without general equilibrium, the market participants are groping in the dark; they have no commonly known general equilibrium price vector to which they can adjust their supply and demand. This means that if the economic system is not resting at general equilibrium, then it is theoretically undetermined whether they ever will reach it; in fact, it would be a mere coincidence if the market economy subsequently moved in the direction of general equilibrium. It cannot therefore in any case be taken for granted that within a Walrasian model an automatic adjustment to general equilibrium – which for the actors is unknown – will ever occur.⁵

In an attempt to overcome this lack of information, a group of neoclassical economists, led by Robert Lucas, posed the question in the beginning of the 1970s that can be restated as follows: ‘What would happen if actors knew the equilibrium vector prices? Or if actors were assumed to have so-called “rational expectations”?’ In such a case, market participants with sure knowledge of the future could ‘hit the mark’, meaning that they could

re-establish the general equilibrium. This is still the founding assumption in the new-classical school of theory.

Hahn and Solow (1996) showed, though, that the condition of rational expectations was not enough to ensure the establishment of a unequivocally defined general equilibrium, which is an important condition for the assumption that equilibrium can be known in advance. The lack of clarity is substantiated by, *inter alia*, the possibility that the system has multiple solutions that cannot *a priori* be discriminated between.

This result implies that any equilibrium will be specific and cannot be analysed independently of the traverse. Thus equilibrium will be determined not only by the specific institutions of the market system, but also by the initial conditions, by both supply and demand factors, and by economic policy (Østrup, 2000).

Regardless of the fact that disagreement exists between neoclassical economists as to the character and clarity of the general equilibrium solution, it is a methodological requirement that each and every market economic model, where perfect competition is assumed to exist, should be 'well behaved', meaning that the system must converge towards a general equilibrium with full resource utilization.

This neoclassical precondition that a macroeconomic model of analysis should be formulated as a general equilibrium model – which economic development of itself must converge upon – is not theoretically supported (Andersen, 2000). These model properties are postulated as a part of an axiomatic basis that is rarely subject to an empirical test.

The question of convergence to a general equilibrium discussed above is therefore of major system-theoretical interest when an analysis of the postulated market system's dynamic and statistical equilibrium properties is conducted. The analytical results are dependent on the characteristics of the model employed, and are primarily relevant to the system world from which they have been derived. The results of the analysis will conversely only be relevant to macroeconomic reality to the degree that the model and the conditions are realistic. Fulfilling this request is a challenging problem in itself, as will be thoroughly demonstrated in the following chapters.

The important issue is not whether or not one can theoretically find an existence vector, but rather whether this vector is relevant for a realistic macroeconomic analysis.

Solow's Growth Model

The Walras model was constructed so that its components formed an analytical model that should ensure a general equilibrium in a single period – a so-called flow equilibrium. An important test criterion for equilibrium

is that there should be full employment (no involuntary unemployment). The fulfilment of this demand therefore stood central to the discussion that arose after the publication of *The General Theory* and which subsequently divided ‘the Keynesians’ into separate camps; this is the subject of the following chapter.

Concurrent with the ‘Keynesian’ debate about the character of and reason for unemployment, the desire to develop a model of analysis to understand economic growth rose in the theoretical agenda. Not least, seen in the light of the post-war period’s high growth rates, economists began to question how positive real investments and technology influence productivity. Here the Cobb–Douglas production function was instrumental, in that within the framework of equilibrium models, it linked the capital apparatus and future production together. It was assumed that an increased number of production factors automatically created growth, as they would always be fully utilized in a permanent flow equilibrium. Saving is automatically converted in the Walras model to real investments, just as labour is always fully utilized. The growth tempo in the model is assumed for technical reasons to be moderated in step with expansion of the capital apparatus. The growth model rests at so-called stock equilibrium, when the capital apparatus stops growing, measured in relation to the number of employed wage-earners. This equilibrium is characterized by all production being consumed – except for needed reinvestment. An eventual continuation of growth must be attributed to either technological innovation or growth in the population.

This expansion of the Walras equilibrium to include a stock equilibrium with constant capital equipment was presented by Robert Solow (1956). Here, it is the full-employment model (flow equilibrium) that is assumed to converge towards stock equilibrium (stationary state equilibrium).⁶

Neoclassical theory in this way leaves us with a ‘broadened’ general equilibrium term, which *inter alia* constitutes the model-based framework for empirical models, such as the Danish Rational Economic Agent Model (DREAM) which applies to the Danish economy. These models are constructed so that the analysed macroeconomy is assumed to be in permanent Walras equilibrium (with full employment), which slowly – over more than 100 years – converges towards the stock equilibrium, characterized as the point where growth in physical capital per employed wage-earner ceases. This general equilibrium growth model builds in such a way on its terminal position of fulfilling no less than three equilibrium criteria:

1. Walras equilibrium or flow equilibrium.
2. Continuous Walras equilibrium while converging to a stock equilibrium.
3. Stock equilibrium.

The question that therefore ought to be raised in relation to the formulation and use of a general equilibrium growth model is: 'To what extent is the object's empirical nature (the ontology) congruent with the model of analysis and the method?'

POST-KEYNESIAN MACROECONOMIC METHODOLOGY: IMPORTANT TERMINOLOGY

On the one side are those who believe that the existing economic system is, in the long run, a self-adjusting system, though with creaks and groans and jerks and interrupted by time lags, outside interference and mistakes. ...

On the other side of the gulf are those that reject the idea that the existing economic system is, in any significant sense, self-adjusting. ...

The gulf between these two schools of thought is deeper, I believe, than most of those on either side of it are aware of. On which side does the essential truth lie? That is the vital question for us to solve. ...

The strength of the self-adjusting school depends on its having behind it almost the whole body of organised economic thinking and doctrine of the last hundred years. ... There is, I am convinced, a fatal flaw in that part of orthodox reasoning which deals with the theory of what determines the level of effective demand and the volume of aggregate employment ... (CWK, XIII: 486-9)^{7,8}

I shall argue that the postulates of classical theory are only applicable to a special case only and not to the general case, the situation which it assumes being a limiting point of the possible positions of equilibrium. Moreover, the characteristics of the special case assumed by the classical theory happen not to be those of the economic society in which we *actually live*, with the result that its teaching is misleading and disastrous if we attempt to apply it to *the facts of experience*. (Keynes, 1936: 3, emphasis added)

Economics is a science of thinking in terms of models joined to the art of choosing models which are relevant to the contemporary world. It is compelled to be this, because, unlike the typical natural science, the material to which it is applied is, in too many respects, not homogeneous through time. (CWK, XIV: 296)

Macroeconomic Method and Reality

The message contained in the first quote above, taken from the so-called 1934 paper by Keynes could also have been formulated the following way: What do we really know about how the overall macroeconomic system functions? Is it reasonable to assume that the system is self-regulating? Does the system, left to its own devices, have intrinsic adjustment mechanisms, which like a heat-seeking missile aim the individual markets towards full utilization of resources?

In 1936, Keynes took an important step forward in his critique of the neoclassical macroeconomic theory. He presented in the introduction to *The General Theory* the distinction between the economic society in which we actually live and the facts of experience on the one hand, and on the other the model through which we choose to see the world. For Keynes, economic theory also became a reflection upon the method-related choice of model, and not just the analytical use of a model, something which must constantly be adapted to society's changes. The central issues for Keynes, during his macroeconomic exploring that took place in the first half of the 1930s, were the criteria for selecting a relevant model of analysis, and thereafter, the use of the model. To understand this, a number of scientific-theoretical questions are raised and answers sought in the following chapters.⁹

The Consequences of Uncertainty

Keynes's and perhaps also the post-Keynesians' ontological starting point is the need to include uncertainty in macroeconomic analysis. This line of theory can hereby, without exaggeration, be summarized in the title 'the economics of uncertainty'.¹⁰ Uncertain knowledge is present at all levels of human behaviour: the individual's understanding of his or her own choices and situation, the social consequences of our activities, external events and the overarching (macro)economic development. Post-Keynesian literature is influenced by the aspiration to understand the importance of uncertainty in an epistemological perspective. For this reason, among others, Keynes's writings have inspired post-Keynesian economists to ask a number of methodological questions: What do we really know about macroeconomic convergence and equilibrium? Is the selected model relevant for obtaining answers to these questions? For if it is not, then the analytical results will be irrelevant. If the hypothesis that the real macroeconomy is convergent cannot be substantiated through empirical studies, then it will remain an empirically unfounded restriction – a hypothesis which is *a priori* attributed to the analytical model.

A parallel problem is connected with the more specific use of a formalized model of analysis. Within the neoclassical tradition there are no limitations on the use of formal mathematical analysis. In the words of Varian (1999):

An analytical approach to economics is one that uses rigorous, logical reasoning. This does not necessarily imply the use of advanced mathematical methods. The language of mathematics certainly helps to ensure a rigorous analysis, and using it is undoubtedly the best way to proceed when possible. ... [C]alculus is

not just a footnote to the argument of the text, but is instead a deeper way to examine the same issues that one can explore verbally and graphically. (Varian, 1999: xix–xx)

The point of the above methodological suggestion is that economic analysis, if one has the required mathematical insight, ought to be used, as it gives a deeper insight than can be acquired through verbal and graphical presentations. Only the mathematical method can ensure the highest degree of logical consistency, and thus precision, in the results. Hence, it is the method that defines the deepest way of doing economic analyses.

Even if this limitation of analytical economics is accepted it still does not free the researcher from having to justify further how the mathematically formulated model can give a relevant analysis. Relevance – meaning, here, to ensure that there is correspondence between the object's ontology and the method deployed – is a completely basic scientific criterion; this will be put into perspective in the following chapters by, among other things, reviewing scientific theory, particularly that inspired by 'critical realism'.

Can Trend and Cycle be Separated?

Ontological and analytical uncertainty means that general equilibrium and automatic convergence cannot be *a priori* assumed to be relevant model-related properties – unless we are speaking of a 'perfect' market economy without uncertainty and with well behaved mathematic functions. In that case the analytical focal point is the (very) long-term perspective, where the market economic system is designed to converge to the predetermined general equilibrium. Here, we know by assumption (not by experience) that the closed system will end up in a 'Walras equilibrium', determined by the pre-designed structural conditions. The model may be less clear-cut about the traverse towards general equilibrium. There may even be formulated alternative traverses leading towards the equilibrium; but the equilibrium itself is independent of the traverse. Hence, the shorter-run adjustment process causing 'conjunctural waves' (business cycles) are of less interest, as they have no long run. In most general equilibrium models the growth trend is determined by structural conditions leaving business cycles without any impact on the macroeconomic performance.

The opposite condition would be true if the existence of uncertainty were introduced. In such cases growth trends and business cycles cannot be analysed separately and an eventual long-term equilibrium would not be unique (Hahn and Solow, 1996). In that case the long-term goal would be of less analytical interest and the traverse would gain attention. When

uncertainty is recognized the macroeconomic analysis becomes open-ended. The further into the future we try to see, both as economic actors and as analytical economists, the more uncertainty will dominate and the more open-ended will be the analysis.¹¹

Uncertainty about the future and expectations are narrowly connected. Keynes introduced short-term and long-term expectations as significant determinants of macroeconomic development. The weights attributed to expectations in the decision-making process change with the planning horizon and with the state of confidence (a term that covers variations in the level of uncertainty). In an uncertain world, the analysis with the shortest time horizon is in most cases the least uncertain, for instance daily consumption, while investment decisions are made in the light of longer-term, and therefore more uncertain, expectations.

In general equilibrium theory, the conditions are opposite: in the short term, actors can be surprised by unexpected events, but in the longer term, depending on the model's specifications, the model will adjust towards the general equilibrium. The certain point is therefore the long-term equilibrium.

The two macroeconomic schools therefore reach different results concerning the question of whether the growth rate and business cycles can be analysed independently of one another. To the degree that the average growth rate (the trend) is affected by the short-term conjuncture-determined development (the cycle), these two terms cannot be analytically separated. This means that macroeconomic development will always be decided by a mix of demand, supply and price-affecting institutions. Here, the 'traverse'¹² takes centre stage for the macroeconomic analysis, both in the short and long run, where irreversible factors such as 'path-dependency, hysteresis, cumulative causality and lock-in' are also of great importance (Kriesler, 2003).

Can the Microeconomic Foundation be Unequivocal?

To start, I would like to pose the question: Why is an explicit microeconomic foundation at all relevant for a macroeconomic analysis? The macro-model should draw broad lines in economic development and leave the details to microeconomic analyses. The analogy of making a map comes to mind. For the map to be useable the scale must be reduced, leaving out much detail.

Neoclassical theory works with an analytical concept called a 'representative agent', to which is attributed traits as though this were an acting individual, but how, in the model, can one agent represent a whole category of individuals, for example, all consumers wrapped into one? In this

way, we are speaking about a stylized average of an entire category, which is then given individualistic behaviour such as utility maximization, most often under the assumption of full knowledge. Should these microeconomic conditions be carried over to the macro-level, then the representative agent is assumed, on behalf of the entire group, to know the general equilibrium, which is the macroeconomic equivalent to having perfect knowledge of the future. This was, as mentioned above, the model-related reason for formulating the hypothesis of rational expectations in new-classical macro-theory. But if the behaviour of the representative agent is not a representative for the whole group (perhaps because the group members act interdependently) or if the condition of full knowledge of the model's general equilibrium is not in agreement with macroeconomic reality, then this microeconomic foundation becomes less relevant for macroeconomic analysis. This rather trivial conclusion, however, has not hindered neoclassical macro-theorists from making the requirement that an analytical macro-model has to be based on an explicit microeconomic foundation, starting with individual optimizing agents with exogenous preferences.

The Fallacy of Composition

One of the great controversial questions in macroeconomics is to what degree is it possible to conclude from the particular to the general. Adam Smith wrote, as already mentioned: 'What is prudence in the conduct of every private family, can scarce be folly in that of a great kingdom' (Smith, 1776 [1976]: 457). He equates individual sense and societal sense – not a bad starting point *per se*, particularly not in a poor agricultural society with few supply factors and governed by a small upper class with autocratic tendencies.

As mentioned in the introduction to this chapter, macroeconomic theory has had to reflect on the question of the relevance of equating household economics and societal economics. General equilibrium theory is an attempt to generalize microeconomic behaviour to hold true on the macro-level. As an alternative to this stands the Keynes-inspired tradition, which concerns itself with the fact that uncertainty drives an epistemological wedge between individual behaviour and macroeconomic outcomes, because not even a super-rational actor can be all-knowing and act independently of the context. In the situations where uncertainty plays a significant role in economic decision-making, a macroeconomic generalization, based on a method-individualistic microeconomic theory, will carry the risk of committing the so-called 'fallacy of composition' (atomistic fallacy), which is caused by the fact that: '[i]ndividual actions,

if common to a large number of individuals, will generate an outcome different from what was intended by each' (Dow, 1996: 85).

Smith's morally-founded statement should instead be formulated as follows: That which is right for one person is not necessarily correct for the entire society, when the action is conducted by a large number of people at the same time.¹³ In other areas, Smith was well aware of the divide between morally-founded behaviour on the one side and the macroeconomic result on the other. He shocked the people of his time when concluding that following one's own interest in economic questions concerning production and employment could also be in the interest of society. He saw the selfish quest for greater income, which resulted in specialization and division of labour, as important sources of 'the wealth of nations'. Increases in economies of scale and productivity could stimulate the individual profit motive, which might make not only the producer but also the entire society richer.

The risk of committing a fallacy of composition lies in the case where the macro-conclusion is based on an unrealistic generalization of micro-economic behaviour. The significance of the fallacy of composition lies primarily in the warning against uncritically equating the individual and collective levels.

CONCLUSION: METHODOLOGY AS A MAJOR DIVIDING LINE WITHIN MACROECONOMICS

Within macroeconomic reasoning, two completely separate methodologies have been developed: one for neoclassical theory based on equilibrium models, and another for post-Keynesian theory based upon causal relationships and path-dependent analysis, where uncertainty, a lack of information, institution and supply and demand factors under constant change create a sustained and (partially) unpredictable dynamic structure.

Neoclassical macro-theory focuses on the analytical model built up around the criteria for a well-functioning and equilibrium-creating macroeconomic system. Here, the focus is on the idealized basic model built on the assumption of rational expectations. It is through this set of lenses that macroeconomic problems are viewed. It is a standard model that serves as the basis for all neoclassical-inspired macroeconomic theory. As is shown in Figure 0.1, within this line of neoclassic theory, there are a number of sub-schools and divisions which, to a varying degree, have dominated the post-war period. Of great importance for this discussion is the fact that, in the actual macroeconomic discussion, neoclassical macro-theory is represented by the new-classical and new-Keynesian lines, each of which

has their specific characteristics, but both of which use the general equilibrium method and assume that representative microeconomic agents have rational expectations. It is, to put it mildly, terminologically confusing that one of the dominant schools within neoclassical theory uses the name 'new-Keynesian'. This apparent paradox will be discussed in the following chapter, which goes into more detail as to how Keynes's book from 1936 was later interpreted within the neoclassical tradition.

As shown in Figure 0.1, there is nothing less than a methodological abyss that divides the neoclassical macro-theory from Keynes's own contribution and its subsequent theoretical and methodological developments, called the post-Keynesian macro-theory. The domain here is the macroeconomic reality characterized by uncertainty. In the early post-war period all the post-Keynesians consisted of a relatively mixed bag of macroeconomists (see King, 2002). The school had its origins in the circle around Keynes in Cambridge. It took part in the discussions behind the creation of *The General Theory* and was, like Keynes, influenced by the big problem of the times: high unemployment. The post-Keynesian line of theory has continued to have the desire to understand reality as a central point in its research and theory development. The gravitational point since has shifted from the more specific theory development to a greater degree of methodological and method-related reflections, with significant inspiration from the scientific-theoretical direction called critical realism. This work was carried out, in part as an acknowledgement of the fact that many of the great macroeconomic challenges were still theoretically unanswered,¹⁴ and partially in light of the renewed reading of Keynes, on the release of *The Collected Writings of John Maynard Keynes*, with greater emphasis on his methodological reflections and less on the more concrete theories and policy recommendations.

The argument of this introductory chapter could be summarized as follows: the selection of a method of analysis is a particularly important, yet often underestimated consideration that ought to be connected to each and every scientific work. On professional grounds, the choice between various macroeconomic theories ought to be justified. This is no easy task, as economic theory is, like all other social sciences, burdened by political interests that see science as a source of leverage for more specific concerns. As mentioned, I will attempt to filter out some of the more ideologically conditional overtones from the scientific discussion. For me, it is the primary aim of macroeconomic science to illuminate macroeconomic reality, independently of particular interests. This means creating the best possible accord between theory and reality, thereby providing the best basis for decision-making, from which one can subsequently make political decisions. This is an important project because macroeconomic theory

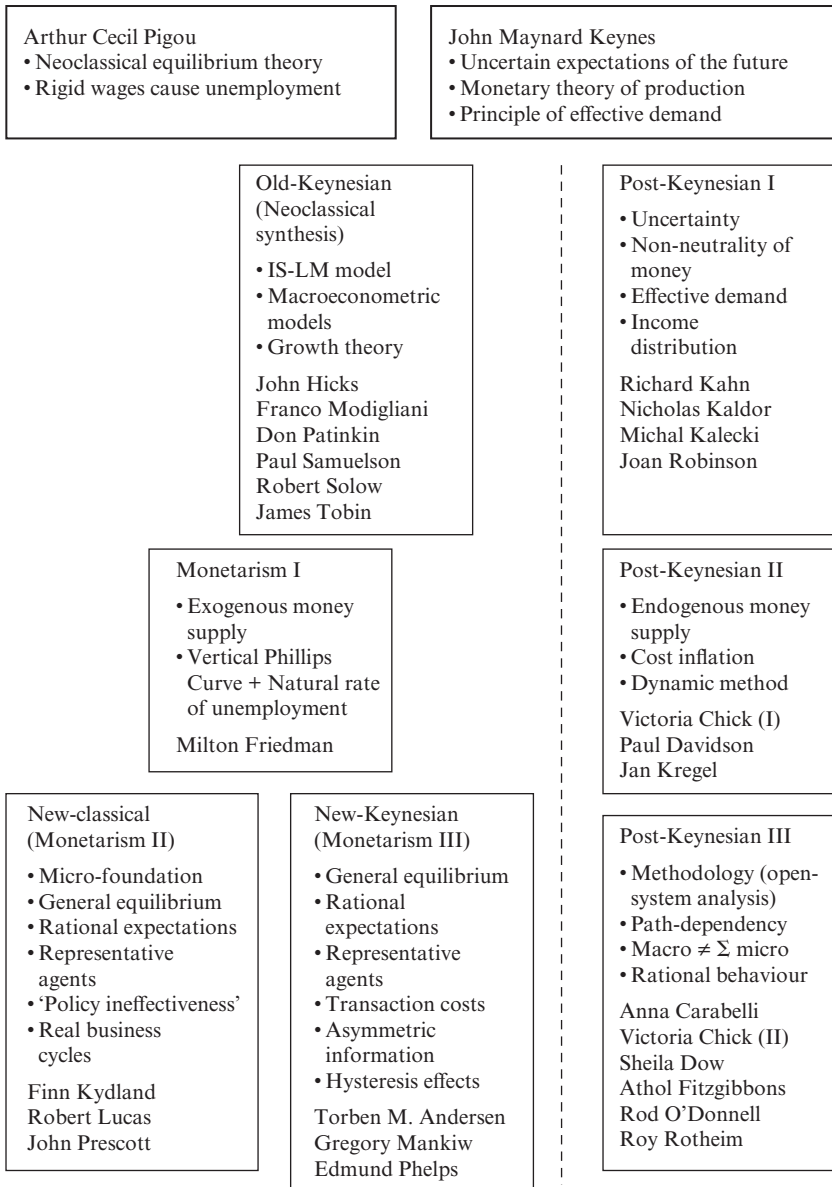


Figure 0.1 Overview of the most significant macroeconomic schools from a methodological point of view

lies behind a number of policy recommendations, which then affect the daily economy of common citizens: employment, the welfare state, sustainable development, the national accounts and inflation.

For this reason it is important to develop professional argumentation for how one can differentiate between more and less adequate macroeconomic methodologies to enlighten others on a given macroeconomic problem. This means developing criteria for choosing a macroeconomic theory and the method of analysis.

This is the theme of the present book.

NOTES

1. After the revolution of 1917, Russia had embarked on a radically different economic path, based on collective ownership and central planning.
2. See Birk (1925).
3. The term 'equilibrium' has multifarious meanings, which will be analysed more thoroughly in Chapter 6.
4. Adam Smith's first book was published in 1750: *The Theory of Astronomy*, Kurrild-Klitgaard (2004).
5. This paragraph is inspired by my reading of Joan Robinson's 'Oxford lecture' reprinted as Chapter 13 in Robinson (1978).
6. The Solow model has since been expanded with both inexhaustible resources and endogenous growth factors, though still held within the confines of a general equilibrium model; see Sørensen and Whitta-Jakobsen (2005).
7. There will be many references to Keynes's works. They have been collected and published under the title of *The Collected Writings of John Maynard Keynes*, in 30 volumes. To make the references more simple, I use the acronym *CWK*, followed by a roman numeral to mark the volume. I make an exception in the case of *The General Theory*, citing it as Keynes (1936).
8. This, in my view programmatic, paper was originally delivered as a radio talk and later printed in *The Listener*, 21 November 1934 under the title 'Poverty in plenty: is the economic system self-adjusting?' (*CWK*, XIII: 485–92). In the text I refer to this paper as the 1934 paper.
9. I here have chosen Keynes as an exponent for the so-called heterodox economic tradition. It is a natural choice because macroeconomic theory and method is at the heart of this book. As put forward by *inter alia* Lawson (2003), within many other economic subdisciplines there are writers who have connected their economic theory to their method-related reflections, such as Karl Marx, Torstein Veblen, Friedrich Hayek and Milton Friedman.
10. The historian Eric Hobsbawm describes the twentieth century as the 'century of extremes', which naturally brings the reader to the idea that this century, to a much greater degree than its predecessors, has been influenced by uncertainty. This is an important factor for the shift in the scientific-theoretical foundation for macro-theory. However, macroeconomic uncertainty is not merely a consequence of political upheavals, but just as much a result of an increased division of labour – nationally and internationally.
11. An example: I feel confident that there will be sufficient supplies of energy for the next 20 years, even though political upheavals can hinder sections of the global energy supply. But were I responsible for the energy supply in a 50-year perspective, I would be rather uncertain, and even after being presented with the very best analyses, I still

would start a massive investment in renewable energy and energy saving, just to reduce uncertainty.

12. 'The traverse defines the movement of the economy outside equilibrium . . .
The traverse is of relevance both to economists who deny that the economy is attracted to any equilibrium, as well as to those who accept that the economy will tend towards equilibrium, but argue that the final equilibrium position is path-determined' (Kriesler, 2003: 355–6).
13. The problem can also be found outside of economics. The paradox of the voter is well known: one voice for or against plays no role in an election, but if a large number of individuals act in a similar manner, then the result of the election can be affected. The Millennium footbridge over the Thames needed to be rebuilt when it was proved to be unstable in the event that a large number of pedestrians suddenly made the same movement, for example when they were hit by a strong gust of wind, or saw the Royal Family.
If one has paid for a seat at a football game, there is nothing so frustrating as when the spectator in front stands up. Then the spectator behind must also stand, which inevitably forces the person behind him to stand. Very soon, everyone is standing, and no one – except perhaps the first – can see any better.
14. Joan Robinson (1977), rather disillusioned, posed the question of how it could be, that 30 years after publishing *The General Theory*, a period when the Western world had experienced a previously unseen level of high economic growth, that the five significant macroeconomic imbalances listed below could still exist without a satisfactory theoretical solution:
 1. Consumption of resources, including air to breathe, has evidently impoverished (parts of) the world.
 2. The long struggle over relative income shares has implanted a chronic tendency to and fear of inflation in industrialized countries.
 3. The international financial system has weakened the structure of the world economy.
 4. Growth in wealth has not removed poverty at home, and development aid (and more international trade) has not reduced poverty in developing countries.
 5. Registered unemployment has re-emerged. In the EU it was around 5 per cent in 1977; 30 years later unemployment was in a number of countries fluctuating around 10 per cent.