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Comments are appreciated

Keynes's *General Theory* becoming 75 years - time to re-read and reflect¹²

by
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I believe myself to be writing a book on economic theory which will largely revolutionise – not, I suppose, at once but in the course of the next ten years – the way the world thinks about economic problems,
(Keynes in a letter to George Bernard Shaw, 1935; CWK, XIII: 492).

Summary:

The General Theory of Employment, Interest & Money was published on 4 February 1936 in the middle of the economic depression. Politicians were groping in the dark with rather little help from the economic profession. People were queuing outside the Economists' bookshop. Expectations were high.

There are some similarities between then and now: unemployment, low growth and mounting public debt. Unfortunately, no new 'General Theory' has been advertised, which may give reasons for a re-read and an up-dated reflection on Keynes's seminal book.

The lecture will emphasize two parts of *The General Theory* which are usually neglected in mainstream textbooks. Firstly, Keynes's presentation of a (new) methodology in which the importance of uncertainty and lack of information could be given their duly analytical recognition. Secondly, the importance and complexity of the 'principle of effective demand' is discussed.

In sum, it is concluded that the *General Theory* contains seeds for a more realistic approach to macroeconomics analysis than the one usually attached to the expression 'Keynesian Economics'.

¹ Sections of this paper have previously been presented at the 4th Post Keynesian Conference at Université de Bourgogne, Dijon, December 2009 and at a meeting organized by Nordic History of Economic Doctrines, Copenhagen, August 2010. In addition, I have drawn on my work on *Macroeconomic Methodology*, which has benefited from intensive conversation with Victoria Chick.

² Any re-read of *The General Theory* could take advantage of starting with a consultation of A 'Second Edition' of *The General Theory*, which is a scholarly collection of reflexions on current macroeconomic issues looked upon through the prism of *The General Theory*. In fact, Keynes had made some plans of a second book with the tentative title 'footnotes to the General Theory'; but he came hardly longer than setting up a possible table of content, CWK, XIV.

Introduction

No doubt, Keynesian unemployment and even *The General Theory* are still referred to in mainstream textbooks of macroeconomics. But if you have happened to read into *The General Theory* you may be wondering if the textbook author has read the same book as you. In most textbooks so-called Keynesian economics is analysed within a general equilibrium model, where the special Keynes feature is an assumption of real-wage inflexibility which may cause involuntary unemployment in the short run. There might also be a reference to a 'Keynesian' consumption function, which is derived from the microeconomic theory of an optimizing household with rational expectations. On the other hand you will hardly find any reference to phenomena like uncertainty, effective demand and liquidity preference, which are some of the distinct novelties explained in *The General Theory* and emphasized by Keynes already in the preface and the very first pages of the book.

This book is chiefly addressed to my fellow economists...its main purpose is to deal with difficult questions of theory...I myself held with conviction for many years the theories which I now attack, (Keynes, 1936: v)

For if orthodox economics is at fault, the error is to be found not in the superstructure, which has been erected with great care for logical consistency, but in a lack of clearness and of generality in the premises. (ibid: v)

Those, who are strongly wedded to what I shall call "the classical theory", will fluctuate, I expect, between a belief that I am quite wrong and a belief that I am saying nothing new, (ibid: v)

This book...is primarily a study of the forces which determine changes in the scale of output and employment as a whole... (ibid: vii)

*I have called this book the General Theory of Employment, Interest and Money, placing the emphasis on the prefix **general**... (ibid: 3)*

There is, however, a necessary condition failing which the existence of a liquidity-preference for money as a means of holding wealth could not exist. This necessary condition is the existence of uncertainty as to the future of the rate of interest (ibid: 168)

Keynes is stating from the very beginning that within macroeconomics one should be aware of the distinction between 'Them and me'. My fellow economists use the same language, but the meaning is different, because the premises, i.e. analytical model and the methodology, are fundamentally different and are adding up to a fundamentally different methodology. The recognition of this different world-view is a precondition for understanding the theoretical implications of the 'principle of effective demand'. Keynes claimed that the genuine theoretical novelty was this theoretical concept, which he would demonstrate within the book, is deductively indispensable for an analysis of 'the economic society in which we actually live'. If one does not see this link from methodology to real

world economics, one will, as Keynes predicted, *fluctuate between a belief that [either The General Theory] is quite wrong [or it is] saying nothing new*. In fact, this is a rather precise description of the perception of *The General Theory* by the neoclassical economists.

Towards *The General Theory*³

The General Theory was published on 4 February. Expectations were high, because Keynes was definitely Mr. Somebody, in both the academic world and in the public eye.

It had been long in preparation. The case can be made that Keynes intellectually started on *The General Theory* the day after the publication of *A Treatise on Money* (1930). He was not satisfied with the outcome. He was disappointed by himself, because he had not within the *TM* been able to give a theoretically convincing argument of the persistent unemployment, which had characterized the British economy for more than ten years. At the best he had only managed to give an elaborate account of a thorny adjustment process to full employment equilibrium,

*The relation between this book and my 'Treatise on Money'...is probably clearer to myself than it will be to others...[But] I failed to deal thoroughly with the effects of **changes** in the level of output.. (ibid: vi-vii)*

The theoretical problem for any economist in those days was the lack of a theoretical macroeconomic model which could support public investments as a measure against unemployment. Keynes himself had experience that, during the campaign up to the general election of 1929, when he supported Lloyd George's proposal for more public investment; but he was caught by the question, 'where should savings come from?' The American president, Franklin D. Roosevelt, had the very same problem, when he initiated his New Deal program in 1933 against the advice of a majority of the established economists. The neoclassical argument against public investment was very simple, that they would take up a part of the limited savings available for private and public investment. Savings were considered as being of a given magnitude.

These experiences were an important part of the theoretical challenge, because he could see that public investments (and house building) did increase employment – but how? Keynes wrote a long essay in support of Roosevelt's policy: *The means to prosperity*, where we can see today that he was halfway in his sloughing off the general equilibrium analytical framework and embracing the open-system framework. Here the method of shifting equilibrium is employed and even more important the analytical meaning of equilibrium deviates from market clearing. In this essay he presented the multiplier theory, which only makes theoretical sense if the amount of savings is variable.

The amount of savings might change during the adjustment process to full employment; only when full employment is assumed will public investment crowd private investment out in the proportion of one-to-one.

³ The story of how Keynes matured from *A Treatise on Money* to *The General Theory* is common place by Keynes scholars. Except for my own reading I have benefited from several contributions. Space only allows me to mention a few: Harrod (1951), Skidelsky (1992), Clarke (1988) and (2009)

But this answer to the question of, ‘where should the extra saving come from?’ could not be given convincingly, until the theory of the ‘principle of effective demand’ was established, and that waited for a new analytical framework to be developed. The most pressing methodological question in that context was addressed in Keynes’s radio talk delivered on 19 November 1934 ***‘Poverty in Plenty: Is the Economic System self-adjusting?’*** (CWK, XIII: 485-92). During this rather informal talk he took the role of the little boy in the fairytale of Hans Christian Andersen called the *emperors new clothes*, because after asking the audience the rhetorical question, ‘what do we know about the stability of the market-economic system?’, he gave the empirically indisputable answer *very little*, because substantial and persistent unemployment had lasted, at that time for nearly 15 years without any significant tendency to disappear on its own.

He continues the radio talk by characterizing the society of fellow-economists, i.e. the economic profession, as divided into two distinct groups separated by an analytical gulf:

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 (CWK, XIII, 1934: 486)

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 (Ibid.: 487)

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. (Ibid.: 488)

The neoclassical economists used a general equilibrium model when macroeconomics questions were to be analysed. If market prices and money wage were made perfect flexible – within the model – this market system was by assumption made self-adjusting. Keynes gave this analytical prejudice the following comment:

This is, however, pure assumption. There is no theoretical reason for believing it to be true. A very moderate amount of observation of the facts, unclouded by preconceptions, is sufficient to show that they do not bear it out, (CWK, XIII: 490).

On the other side of the gulf is a much smaller group of macroeconomists (those who Keynes called the heretics. Today, we would rather call this group the ‘heterodox’ economists), which persistently claims that supply and demand have to be present also in macroeconomic analyses. Unfortunately, Keynes was not yet ready to give a full explanation, why it had to be so; but he was on the track of an explanation which fundamentally broke with the axioms of individual rationality, market clearing and full information in macroeconomics due to the methodological implications of taking uncertainty seriously. Hence, he concluded his position in 1934 the following way:

Now I range myself with the heretics. There is, I am convinced, a fatal flaw in that part of the orthodox reasoning which deals with the theory of what determines the level of effective demand and the volume of aggregate employment (ibid: 489)

Novelties in *The General Theory*⁴

Keynes focused on the ‘principle of effective demand’ as the main theoretical novelty of *The General Theory*. He was astonished to realize that within traditional neoclassical macroeconomics there was left no room to consider an independent role of aggregate demand. Output as a whole was determined by the supply of factors of production and technology. On brief form one could conclude the neoclassical macro-model by stating that ‘supply creates its own demand’.

Keynes was puzzled, how could it be that the fathers of neoclassical microeconomics (especially Marshall) who had emphasized the role of supply **and** demand in the partial market analysis, seemed entirely to disregard the impact of aggregate demand at the macro-level? A number of ‘open-minded’ neoclassical scholars accepted even at that time the argument that due to rigidities and transaction costs there could in the short run, but only in the short run, be arguments for a limited (in size and space) role in macroeconomics to be played by the demand curve.⁵ Those economists who accepted this interpretation of *The General Theory* fell into the category of basically claiming ‘nothing new’. Hicks’s ISLM-model was one of the first attempts to box the principle of effective demand into a general equilibrium framework ‘with sand in the wheels’ and to demonstrate that it was just a matter of how the explanatory variables were chosen, which determined the adjustment process to full employment⁶. In this view there was no ‘gulf’ between Keynes and the Classics. The ISLM model became the first stepping stone on a slippery road leading to the so-called neoclassical synthesis, where only wage- and price rigidities were left to explain involuntary unemployment.

On the other hand the somewhat hesitant acceptance of aggregate demand as one of the driving factors in the short run model was a vindication of one of Keynes’s major theoretical achievements to put aggregate demand on even terms with aggregate supply, at least in the short run.

But the second distinct conclusion of *the General Theory*, that involuntary unemployment can be persistent and even be characterized as an equilibrium position, caused an outcry among the orthodox economists. According to neoclassical economics represented by the Walrasian equilibrium model a non-clearing market cannot be in a competitive equilibrium. In that respect Keynes’s conclusion was doomed ‘quite wrong’. If he had used the expression ‘persistent disequilibrium’ the outcry would, probably, have been less expressive.

The quite different reception of the two most significant conclusions of *The General Theory* is telling of the dilemma which Keynes had to face after publication.

⁴ If telling the story of Keynes’s transition from TM to GT is a crowded road then the ‘genuine’ content of GT is even more crowded among scholars of Post-Keynesian Economics. Here, John King, *A History of Post Keynesian Economics since 1936* gives a superb overview. Skidelsky has chosen a very telling title for the chapter discussing the different interpretations of the GT, *Whose General Theory?*

⁵ But Keynes ridiculed Pigou in the appendix to chapter 19 of assuming that a *shift* in the aggregate demand could be used as a short run explanation of changes in (un)employment. Keynes accused Pigou of ‘forgetting’ that in the neoclassical macromodel the demand curve for labour is derived from the production function, which is primarily determined by technology, see Jespersen, 2009, appendix to Chapter 8.

⁶ In fairness to John Hicks it has to be said that within his seminal paper on ‘A suggested interpretation’ the adjustment process was left open. And perhaps in even more fairness to Hicks, he got second thoughts on the ISLM-model as a relevant interpretation of the General Theory, Hicks 1981

He could join forces with those colleagues who accepted, especially for policy conclusions, the importance of aggregate demand, but without abandoning the general equilibrium model as the basic analytical framework. Or he could have rejected the ISLM presentation of 'Mr Keynes and the Classics', because it did not incorporate uncertainty and open-system analytical reasoning. (In fairness to Keynes, I think that it has to be added, that this dilemma is probably easier to identify in the light of 75 years of hindsight.)

Anyhow, one year after the publication Keynes had the opportunity to sum up, what he considered as his main achievements. This summary was presented under the title of 'The General Theory of Employment' and had the form of a reaction to four of his (numerous) critics, who had taken a constructive although critical judgment of the book.

I sum up, therefore, the main grounds for my departure as follows:

(1) The orthodox theory assumes that we have a knowledge of the future of a kind quite different from that which we actually possess. (CWK, XIV: 122)

(2) The orthodox theory would by now have discovered the above defect, if it had not ignored the need for a theory of the supply and demand for output as a whole, (ibid: 123)

It seems without doubt that Keynes put main emphasis on the lack of knowledge, i.e. uncertainty, which cannot methodologically be made compatible with the general equilibrium model. The problem was that, after having realized the methodological consequences of open-system analysis, a new world of possible models of demonstrating how the macroeconomic system works opens up. In the perspective of aggregate behaviour reflecting individual decision making partly based on uncertain expectations, a rich menu of theoretical models can be presented. The real challenge became to develop a method to choose a relevant model for the macroeconomic issue under consideration:

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)

Time to re-read and reflect

Keynes's perception was that economies did not behave in the way economists said they did, that something vital had been left out of their accounts, and it was this missing element which explained their malfunctioning; Keynes accused economists of his day of abstracting from the existence of uncertainty (Skidelsky, 1992: 538-9).

I will bring to the fore three important macroeconomic phenomena which are entailed in the GT and could be very useful for a richer understanding of how the economic crises develop and perhaps give inspiration to proposing ways out:

1. Microfoundation based on the assumption of individual rationality and interdependent behaviour with explicit consideration of 'uncertain knowledge'

2. Principle of effective demand as a macroeconomic theory explaining ‘output as a whole’
3. How to avoid making an analytical ‘fallacy of composition’ or ‘fallacy of equilibrium’

1. Microeconomic uncertainty with macroeconomic implications

It is often emphasized in mainstream economics that macroeconomics need a firm microeconomic foundation. In this it is striking that within the usually applied microeconomic foundation no consideration of uncertainty is demonstrated. Keynes took the reverse position that the macroeconomic changes are if not solely then to a large extent caused by economic actors’ changing perception of uncertainty, state of confidence and lack of information often summarized under the heading of ‘animal spirits’. Households and firms have to make decisions every day with consequences ranging far into the future. ‘No investment’ is from a macroeconomic view-point equally important to ‘an investment’. It does not make sense in reality to sit and wait for full information that will never turn up, and investment opportunities will pass by. The rather loosely defined concept of ‘state of confidence’ might change through time for many reasons, which are all rational from an individual point of view given the (lack of) information. One can feel oneself more or less uncertain, but except for very rare cases all economic activities are characterized by some uncertainty, because one cannot know nor estimate the exact outcome. Individual expectations are by the logic of the activity uncertain due to this inherent lack of information (which is enforced by a constantly changing environment).

Risk is analytically different. It is defined as individual uncertain events which have such a social structure and stability that an insurance company can apply the law of large numbers to the occurrence in total. For instance, if an identical event is experienced by a large number of people who act independently of each other, e.g. natural death, then an exact number might be calculated with regard to the ‘macro-death rate’ of the entire population. In these cases a private insurance company or some other institution could transform the individual uncertainty with regard to the specific outcome into risk for the group as a whole, and premia might be established to obtain a profit. In the society in which we live, one can take out an insurance against the narrow economic consequences of, e.g., theft, fire, sickness and death. Buying an insurance policy implies that individual uncertainty, with regard to the money aspects of such incidents, is removed. But, as we know, most activities have also unforeseeable consequences. Therefore, even a well-designed insurance contract can only reduce the degree of uncertainty, because it goes against the idea of a private insurance company to accept contracts which imply incalculable risk, i.e. uncertainty.

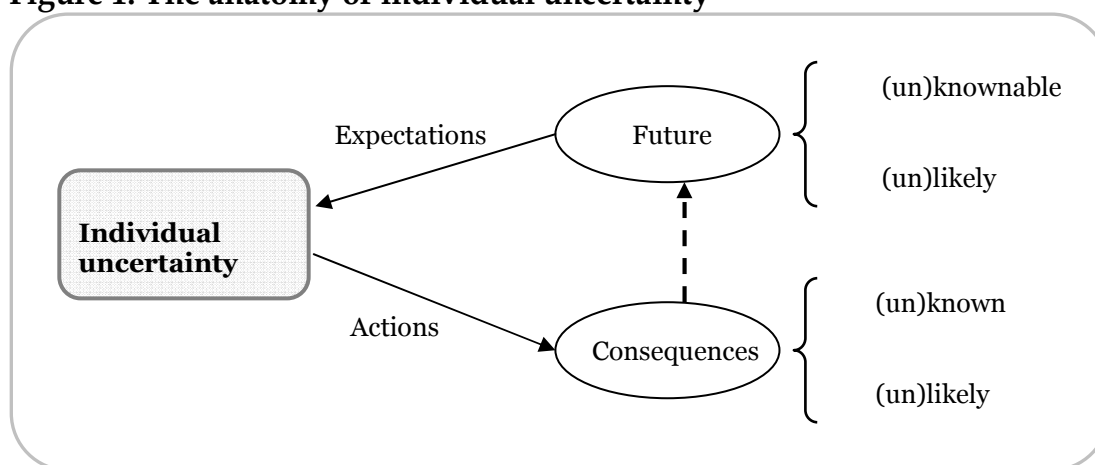
One important conclusion is that due to the lack of knowledge macroeconomic phenomena can rarely be described by a stable (and known) probability function. Hence there is no exact, calculable risk function. In that perspective only the government, if any, can take some of the responsibility of macroeconomic uncertainty on its shoulders. For instance, the real value of financial savings is uncertain. No one can predict the future inflation, and the distribution of outcomes is not known. Even the average life expectancy

of human beings is statistically unpredictable, which a number of pension funds regretfully seem to have realized.

Hence, at the individual level there are at least three obvious appearances of uncertainty, when an individual activity is undertaken:

1. there is imperfect information about the institutional environment
2. the macroeconomic context and other decisive parameters for decisions (e.g. economic policies) are not fully known
3. we do not have full knowledge about the consequences of our actions

Figure 1: The anatomy of individual uncertainty



Source: Jespersen (2009): chapter 4

We are all, as individuals, acting without knowing the exact consequences, and we also act without having full information about the external factors which make an impact on the outcome. Furthermore, we simply cannot know the future, because the macroeconomic reality is (partly) hidden (Jespersen, 2009a: chapter 2). Hence, it would be misleading and pretentious to assume that agents have full knowledge about the future – so-called ‘rational expectations’. In fact, to assume rational expectations in macroeconomics is not in any real analytical sense rational – one may rather say that ‘it is to assume our difficulties away’ (Keynes, 1936: 34).

Keynes’s main research question was how to avoid undertaking unrealistic assumptions in macroeconomic analysis. In fact, his ambition was to preserve the very realistic assumption that people do behave rationally, but under condition of uncertainty, illustrated in figure 1. Collective behaviour characterized by, for instance, conventions and group- related behaviour or organized according to formal institutions can be also individually rational, if this behaviour reduces the unpredictable consequences of limited information and unknowable external events. Decisions cannot be postponed until uncertainty has been cleared away. If we ask for certainty as a precondition for rational actions – then we cannot act, which, of course, in some way is an act by itself. Hence, we have to act one way or the other against the back-drop of uncertainty. The really intriguing question is how to make a proper macroeconomic analysis, where uncertainty is given the epistemological role which it deserves.

Keynes's *Principle of Effective Demand* developed in *The General Theory* is an example of an open-system analysis which incorporates uncertain expectations at the individual/ business level and transforms them into a consistent macroeconomic theory of output and employment as a whole, see Setterfield (2003).

2. The Principle of Effective demand

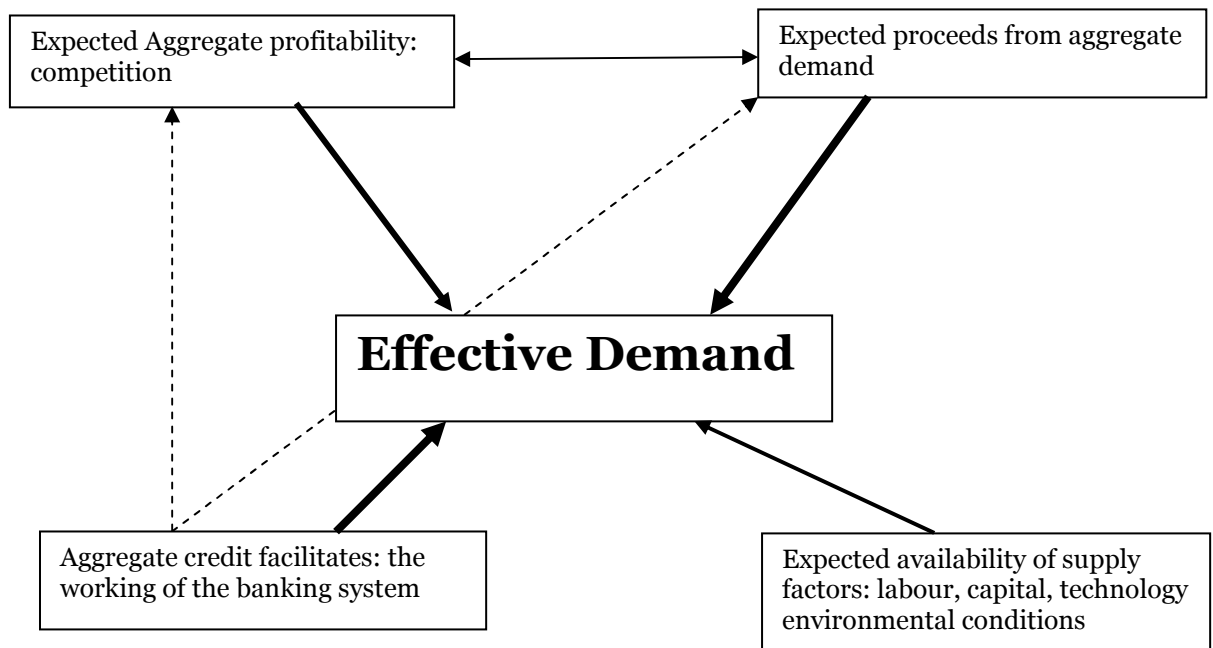
As I now think, the volume of employment is fixed by the entrepreneur under the motive of seeking to maximise his present and prospective profits; whilst the volume of employment which will maximise his profit depends on the aggregate demand function given by his expectations of the sum of the proceeds. (Keynes, 1936: 77)

Effective demand is one of the distinctive analytical concepts that Keynes developed in *The General Theory*. Demand and demand management have thereby come to represent one of the distinct trademarks of Keynesian macroeconomic theory and policy. It is not without reason that the central position of this concept has left the impression that Keynes's macroeconomic model predominantly consists of theories for determining demand, while the supply side is neglected. From here it is a short step within a superficial interpretation to conclude that Keynes (and post-Keynesians) had ended up in a theoretical dead end, where macroeconomic development is exclusively determined by demand factors.

Fortunately, a rich post-Keynesian literature on 'Effective demand' has emerged during the last years overcoming the above mention misinterpretation and adding more arguments to the subtle analytical concept than in fact can be found in *The General Theory*, see for instance Hartwig, 2007 and Gnos, 2009.

As mentioned, the intention of this paper is to give an example of how an important macroeconomic causal relationship can be modelled on the basis of both supply and demand factors with the inclusion of specific institutional conditions such as different forms of competition and the working of the financial sector. The choice of the analytical method plays a determining role for the macroeconomic 'behaviour' that can be deduced on the basis of an aggregate model-structure based on the assumption of rational microeconomic behaviour under condition of uncertainty within a relevant institutional context and supported by empirical observations. Obviously, this methodological procedure is contrary to methodological individualism, where representative agents within a given market structure optimize with full information about the general market clearing equilibrium.

Figure 2: Outlines for the macroeconomic principle of effective demand



Explanation of the figure: Effective demand determines how much output and employment the business sector as a whole plan to undertake in the next ‘production period’. It consists of (at least) four analytical components:

1. Expected (by the business sector) aggregate demand in money terms
2. Expected (by the business sector) costs and likely profitability in money terms, dependent on the degree of competition
3. Bank credit facilities and costs (rate of interest etc.)
4. Availability of factors of production

In any case, it is the behaviour of profit-seeking firms acting under the ontological condition of uncertainty that is at the centre of the post-Keynesian concept of effective demand. It is entrepreneurs’ *expectations* with regard to proceeds from demand compared to the factor costs that determine output as a whole and by that the *effective demand* for labour.

Therefore, it was somewhat unfortunate that Keynes called his new analytical concept ‘effective **demand**’, which may have contributed to misleading generations of open minded macroeconomists to concluding that it was exclusively realized *demand* for consumer and investment goods that drives the macroeconomic development. Hereby a gateway for the IS/LM-model interpretation of effective demand was opened, where demand could create its own supply in the short run.

On the contrary, it is the interaction between the sum of the individual firms’ sales expectations (aggregate demand) and their estimated production costs (aggregate supply) that together with a number of institutional conditions (bank credit, labour market

organization, global competition and technology) determine the business sector decisions on output as a whole and employment.⁷

Thus, it is my intention with this paper to eradicate the often presented point of view that Keynes's macroeconomic theory does not have microeconomic foundation or supply side considerations. In fact, *Keynes's economics is a theory of rational choice under uncertainty*, Skidelsky, 1983.

Firms' production plans determine 'effective demand'

The supply side in the goods market is an aggregate presentation of firms' cost functions considered as a whole. It shows a relation between what Keynes called 'supply price', i.e. the sales proceeds that, given the production function and cost structures, is needed to '*just make it worth the while of the entrepreneurs to give that employment*' (Keynes, 1936: 24). This means that behind the supply curve there is a combination of variable costs plus an expected profit at different levels of employment. At each level firms try to maximise their profit; if they succeed there is no (further) incentive for firms to change production or employment.

These assumptions entail that the *aggregate supply function* (what Keynes called the Z-curve) is upward sloping and represents the proceeds that have to be expected by the industry as a whole to make a certain employment 'worth undertaking', see the Z-curve in figure 3. In fact, this *aggregate supply function* looks like it was taken directly from a standard, neoclassical textbook, where *decreasing marginal productivity of labour* within the representative firm is assumed; the main difference is that Keynes is dealing with the aggregate sum of heterogeneous firms *i.e.* the industry as a whole⁸.

The other equally important part of effective demand is the *aggregate demand function*, which is the value of the sales that firms as a whole *expect* at different levels of *macro-activity* measured by employment (as a whole).

In order for firms to act on the best information available they have to form expectations about future sales which have to be both empirically based and forward looking at the same time: *let D be the proceeds which entrepreneurs expect to receive from the employment of N men, the relationship between D and N being written $D = f(N)$, which can be called the Aggregate Demand Function* (Keynes, 1936: 25, my emphasis).

It is a definition of few words that opens the possibility for a number of hypotheses with regard to how the entrepreneurs' total expectations of proceeds are formed. But to me it seems undeniable that Keynes is speaking about a macroeconomic relationship. How much money will be spent in society as a whole on consumption and investment at different levels of activity (measured by employment)?

The concept of aggregate demand can perhaps be best understood with reference to the far newer statistical concept of a 'business sentiment index'. The business sentiment index is based on a survey among a cross-section of firms of their expectations about sales

⁷ Within a modern interpretation of 'effective demand' one has to add the role of credit, see Graziani (2003) and Lavoie (2006). The financial crisis exposed the importance of bank credit as the necessary, but not sufficient, vehicle to realize production plans. In a broader (and longer) perspective institutional conditions in the labour market, the availability of natural resources and impact on environmental issues have to be integrated within a macroeconomic analysis.

⁸ Firms do not have to undertake profit maximizing behaviour, and there might not be decreasing marginal labour productivity.

in the nearer future. This published index helps to form expectations of sales proceed for the industry as a whole and even for the entire macro-economy. It is assumed that on this information firms make a kind of survey-based expectation with regard to the most likely development in sales and proceeds in the nearer future.⁹ This expectation of aggregate demand (as a whole) is a useful point of departure for the *individual* firms when they have to form their specific expectation of future proceeds. This sales expectation¹⁰ will therefore centre around the future *macroeconomic* demand (and on the intensity of international competition).

Accordingly, Keynes's *macro*-theory has a microeconomic foundation of firms trying to maximise profit, but differs from neoclassical theory by introducing uncertainty related to the future, which makes an explicit introduction of *aggregate demand* relevant i.e. the *expected sales proceeds by business as a whole*.

The implication of this behaviour under uncertainty by the individual firms is that it is not reasonable to expect the individual demand curve to be infinitely price-elastic at the ruling market price, see Hartwig, 2007. In the short run firms have to behave under the constraint of a somewhat constant market share and a fixed stock of real capital. In this case it would not be rational for individual firms to plan their future production as though they operated under the condition of a horizontal demand curve and should not expect the market price to be solely given 'from outside', not to speak about being constant. This means that the neoclassical assumption of firms exclusively adjusting the production on the basis of a given price (and cost) structures leaving demand neglected can be discharged, when uncertainty prevails. In the short run firms know that the aggregate demand at the macro-level is confined. On the other hand market prices will be somewhat flexible. Both aspects have to be included in the individual firm's production plans.

This semi-closed analysis of firms operating under the constraint of a bounded market share makes it relevant to assume firms (as a whole) to behaving like a monopolistic competitor who has to react on a change in aggregate demand. In addition, the aggregate macro-behaviour is not in dissonance with the assumption the individual firms try to maximize profit given the available, but uncertain knowledge about the future: costs, sales proceeds, market share and competitive conditions (domestic and foreign).

In this case it has been explained, why post-Keynesian economics has dismissed the neoclassical abstraction that the macro-supply curve can be presented by the behavioural relationship of one representative micro-firm. In post-Keynesian theory firms are assumed to behave with respect to their uncertain knowledge about aggregate demand (demand as a whole), knowing that they can only achieve an uncertain share of this aggregate demand.

Finally, it was important for Keynes to make clear that aggregate supply and aggregate demand are two clearly separated analytical entities; but they are not entirely independent of each other. Keynes's main objection against 'classical' theory is exactly, that it equates the macro-supply and macro-demand functions in such a way 'that supply always creates its own demand'. On the other hand, the conclusion that demand always creates its own supply is equally misleading. It depends.

⁹ 'nearer future' means an analytical period that corresponds to the time it takes to implement decisions related to hiring and firing in the labour market.

¹⁰ How the total sales would be distributed among the individual firms within the branch would be of lesser importance in a macroeconomic perspective.

Essentially, what Keynes did in The General Theory was to devise a method of addressing the question he posed by extending the supply-side/demand-side analysis of the Marshallian tradition from commodities and factors of production to output as a whole (Fanning and O Mahony, 2000:10)¹¹

3. A methodological reflection – Open system analysis, the fallacy of composition and of Equilibrium¹²

Though an individual whose transactions are small in relation to the market can safely neglect the fact that demand is not a one-sided transaction, it makes nonsense to neglect it when we come to aggregate demand. This is the vital difference between the theory of the economic behaviour of the aggregate and the theory of the behaviour of the individual unit... (Keynes, 1936: 85).

The fallacy of composition is committed when a single (macro) market is analysed in isolation from the ‘economy as a whole’. That might happen if the *ceteris paribus* assumption is employed in macroeconomics and the analytical outcome is presented without explicit reference to the limitation which are caused by assuming all other markets in unchanged equilibrium. In such cases the error would be that results are achieved from a partial market analysis and not from an analysis of *the economy as a whole*.

The neoclassical textbook treatment of the labour market is also illustrative for this fallacy of composition.

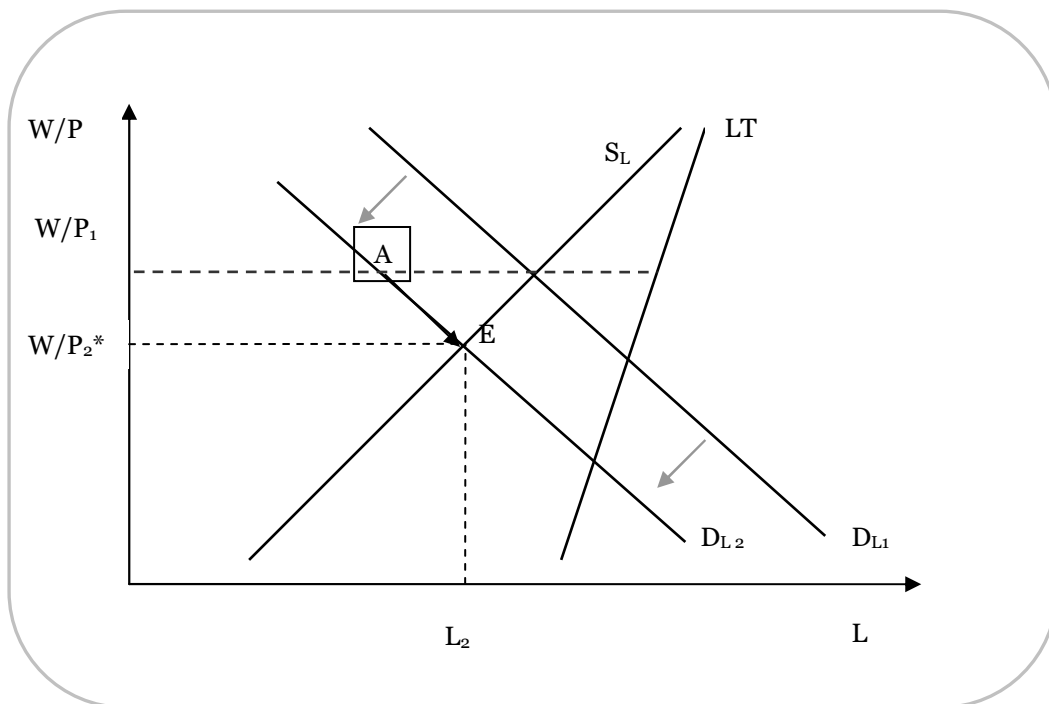
An isolated labour market

I will demonstrate the consequences of making a fallacy of composition by isolating the labour market from the economy as a whole. I have discussed above a number of difficulties that are connected with giving an empirically relevant representation of supply and demand in the labour market by using the method of representative micro-economic agents. Here I put this discussion to the side and look only at the adjustment in the labour market from the neoclassical point of view, where an analysis based on representative agents is considered both consistent and relevant.

¹¹ A conclusion which could also be extracted from the reading of Chick (1983)

¹² This section owes a heavy intellectual debt to Chick (2003), Dow (2001) and (2003)

Figure 2: The new-Keynesian textbook representation of labour market adjustment



‘Keynesian or demand-deficient unemployment...arises when wages have not yet adjusted to restore labour market equilibrium ...Without a boost to demand, involuntary unemployment will slowly bid wages down, moving the economy from A down to E.’ (Begg, 2001: 203-04)

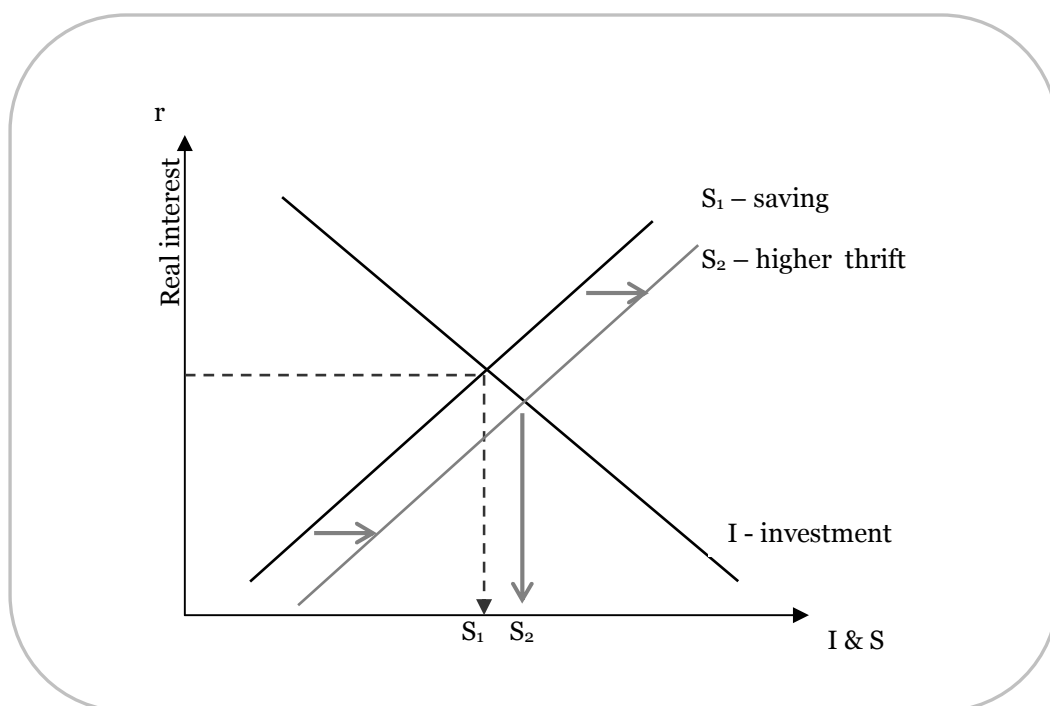
Assuming general equilibrium (*ceteris paribus*) in all other macro markets, the analysis is isolated to the labour market. Hence, ‘supply creates its own demand’ and the analysis boils down to a matter of (real) wage adjustment. Lower nominal wages lead by assumption to lower real wages and higher employment in this isolated macroeconomic analysis. If, however, there are significant spill-over effects from the labour market adjustment or expectations are not rational (in the Lucas-meaning), then ‘all other things’ will not stay unchanged and the assumption about unchanged equilibrium values cannot be maintained. In that case a reduced real wage might cause the purchasing power of wage earners to fall, which would more likely than not reduce consumption. On the other hand an increased profit margin could have a positive effect on export of goods and services. Therefore, in the end wage adjustments might have rather complicated spill-over effects on effective demand for goods and services (i.e. output) and thereby on demand for labour.

The analytical point made above is to emphasise that when there is a mutual interdependency between macro-markets (in reality this is the most likely case) macroeconomic consequences cannot be analysed within an isolated macro-market model without running the risk of committing a fallacy of composition.

An increased propensity to save – the fallacy of equilibrium

Another, almost as ‘classic’, example of a fallacy of composition, is the analysis of an increased individual propensity to save within an isolated loanable funds model. The argument is persuasive, if everybody increases his or her propensity to save, then the aggregate amount of savings will increase. In a neoclassical loanable funds market equilibrium (where the real rate of interest clears the market for real investment and savings) this conclusion is confirmed. When the propensity to save is increased the rate of interest will fall, cf. figure 3, see also Mankiw (2000: 62). A lower rate of interest secures that the increased propensity to save is transformed into an equivalent amount of increased real investments, whereby the total output and total employment remain unchanged.

Figure 3: A neoclassical isolated saving-investment analysis



A changed saving behaviour has no spill-over effect on output as a whole or employment. The assumption of *ceteris paribus* isolates the ‘market’ for saving and real investment and the (real) interest rate from the other markets of the economy ensures that the market clears. However, if this assumed isolation is analytically illegitimate because of significant spill-over effects between the market for saving and investment and other macro markets, then the model is not relevant from a realistic point view, i.e. out of general equilibrium.

There is no magic here, no mystery; but a reliable scientific prediction.

Why should this method of approach appear to so many people to be novel and odd and paradoxical? I can only find the answer in the fact that all our ideas about economics, instilled into us by education and atmosphere and tradition are, whether we are conscious of it or not, soaked with theoretical

presuppositions which are only properly applicable to a society which is in equilibrium, with all its productive resources already employed. Many people are trying to solve the problem of unemployment with a theory which is based on the assumption of no unemployment, (CWK, IX: 349-50)

Conclusion with relevance for today

The outstanding faults of the economic society in which we live are its failure to provide for full employment and its arbitrary and inequitable distribution of wealth and incomes. The bearing of the foregoing on the first of these is obvious. But there are also two important respects in which it is relevant to the second. (Keynes, 1936: 372)

In a highly specialized market economic system uncertainty prevails. This is even truer when the markets are extended worldwide through the process of globalization. In that case it is an illusion to imagine the market forces by themselves can ‘create its own demand’. If one gives up the analytical pre-condition of assuming that the underlying framework is a stable general equilibrium system, then it becomes obvious – by logic – that ‘we do not what the future will bring’. This is true for the individual and for the government. But, and that is an important ‘but’: the individual has no power to change this over all situation. In fact, following the argument of ‘the fallacy of composition’ there is a risk that the rational respond of many individuals to increased uncertainty undertaken at the same time might aggravate the macroeconomic imbalances – known as the paradox of savings (or the paradox of reducing wages).

Governments, on the other hand, do still in most countries have the power to influence effective demand significantly – for good and, would probably some sceptical liberals say, for bad. This implies, that *the General Theory* is not only relevant for understanding a depression economy. The Chinese government could also benefit from reading it in its attempt to control the rampant growth.

However, Keynes did put forward in his concluding chapter one more politically controversial argument that the outcome of unregulated market processes may cause an arbitrarily and inequitable distribution of wealth and income. Existing inequalities are not helpful in creating the saving needed for the real investment. To the contrary, Keynes had demonstrated that saving is an automatic outcome from the undertaking of real investment either in the private or public sector. Hence, wealth inequalities could be reduced without doing any harm to real investment. In fact, increased financial saving could easily reduce effective demand and make real resources underutilized. Especially, in cases with abundant supply of labour an increased tax rates could make society fairer without obstructing the growth process.

But Keynes did not take a definite stand on, what government ought to do. In fact, there is rather little in *The General Theory* on specific policy recommendations. If anything, Keynes expressed a preference for monetary policy rather than fiscal policy, when effective demand is deficient. He considered himself all way through mainly as a theorist, especially when he addressed his fellow-economists:

'Economists are the trustees, not of civilisation, but of the possibilities of civilisation' (Keynes, 1945, when he gave up his editorship of *Economic Journal*, quoted from Harrod (1951))

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