

Davidson on Keynes and Macroeconomics

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Abstract

*In the history of economic thought Post Keynesianism offers a different interpretation of John Maynard Keynes's **General Theory** than what is known as mainstream Keynesianism. Being one of the most outstanding heterodox economists, in the Paul Davidson tradition of Post Keynesianism, a direct connection to the writings of Keynes is present theoretically as well as methodologically. This paper aims partly to present some views on Davidson's interpretation of Keynes and partly to present and discuss a textbook in Post Keynesian macroeconomics that Davidson wrote together with Smolensky in 1964.*

Key Words: Paul Davidson, non-ergodic systems, and Post Keynesian Macroeconomics.

JEL Classification Codes: B22, B31 & E12

1. Introduction

As it is known from the history of economic thought, Post Keynesianism is heterodox in so far that it according to Arestis (1996) consists of at least three main traditions (a Keynes-like, a Kaleckian and an Institutional one). However, the discussion whether or not Post Keynesianism is coherent to such a degree that it can be seen as a one distinct theoretical school, to use a Lakatosian term, seems still to be an ongoing one; e.g. Hamouda & Harcourt (1988), Arestis (1996) and Walters & Young (1997). All three traditions may well be united in their mutual criticism towards traditional neoclassical mainstream macroeconomic thinking be it New Classical or New Keynesian in its content but at the same time the three above mentioned traditions might differ too much when it comes to share the same core elements of a theoretical as well as of a methodological character. However, Post Keynesianism is in many ways fundamentally linked to the writings of John Maynard Keynes; e.g. Eichner & Kregel (1975) and Chick (1995). Especially, this is of course the case in its Keynes-like tradition. According to this tradition Post Keynesianism has primarily to do with the kind of economic understanding that Keynes presented in his *A Treatise on Probability*, published in 1921, and in his main contribution *The General Theory of Employment, Interest and Money* from 1936.

One of the most prominent economists within the Keynes-like tradition is Paul Davidson¹; according to Holt et al. (1998), Davidson likes to name himself a 'Keynes-Post-Keynesian'. Throughout almost all of his writings, Paul Davidson has repeatedly argued that to understand the relevant economic processes of a modern monetary entrepreneurial economy you have to acknowledge and to take into account the fundamental conclusions of Keynes. Based on this understanding, theoretically as well as methodologically, he has rightfully criticized neoclassical thinking for its lack of relevance to conduct a thoroughly macroeconomic analysis. However, he has done more than just to criticize mainstream. He has also tried to put forward some alternative and opposing views to the mainstream understanding from the very beginning of his career.

¹ As just one example; in Davidson (2005 & 2003-4) he gives his interpretation of what Post Keynesianism is all about and who should be labeled as a Post Keynesian.

Given the influence of Sidney Weintraub, from early on Davidson recognised the importance of conducting the macroeconomic analysis within the framework of the macroeconomic model presented in Chapter 3 of *The General Theory*: the principle of effective demand².

He committed himself in such a degree to this framework that he when he together with Eugene Smolensky wrote a text book in macroeconomics (published in 1964) that presented itself as an alternative to the prevailing mainstream interpretation of macroeconomics they insisted contrary to the advice of his publisher³ on having it titled *Aggregate Supply and Demand Analysis*⁴. Unfortunately to the authors this book never became a big success as recognized by Davidson himself as he states that the book: “was designed to be *the* fundamental Post Keynesian macroeconomic textbook. I could never understand why economists who professed to be Post Keynesians, refused to read it, much less use it as a basic macrotext”; Davidson (2003-4:255). In total, the book never sold more than approximately 3000 copies; King (1994:364).

The present paper aims partly to present some views on Davidson’s interpretation of Keynes, in essence the argument made by Davidson claiming that Keynes rejected three crucial axioms of the neoclassical mainstream understanding of the 1930s, and partly to present and discuss the above mentioned textbook as a case study in the history of economic thought. Finally, the paper is closed with some few concluding remarks.

2. Davidson on Keynes: the rejection of three very important axioms

According to Davidson, Keynes rejected three very restrictive and crucial axioms of the neoclassical mainstream of his day when he put forward his new macro model of *The General Theory* as Davidson has claimed vigorously in much of his writings⁵.

Contrary to the mainstream understanding, given the principle of effective demand Keynes was able to show how a macroeconomic outcome of involuntary unemployment could emerge and seemingly become a very catastrophically and perhaps almost a stationary phenomenon of economic life. Focusing on the behaviour of households and firms, Keynes made it clear that economic agents always act on their expectations when they have to decide what to do in the future. But their expectations are not rational in the modern macroeconomic understanding of the concept. Of course, households and firms try to achieve the best economic outcome they possibly can. In doing so, Davidson argue, firstly, that Keynes accepted that the macroeconomic environment which should be used to study the processes of the economy’s development through time is fundamentally a non-ergodic one, meaning that future economic events cannot be predicted correctly from knowledge of neither the past nor the present as the future has yet to be created by ours actions of today.

That is, individuals have to formulate their expectations on the basis of imperfect knowledge about a truly uncertain future in an economic system that is dynamic, changeable, and path-dependent. So they are almost bound to be mistaken in their decision-making processes, at least to some degree.

² As Davidson said it himself in an interview with Colander: “coming under the influence of Sidney Weintraub at exactly the right time structured the rest of my career”; Colander (2001:87). Especially important in this respect was the contribution made by Weintraub (1958). As Davidson pointed out in another earlier interview with King: “I understand Keynes from that book more than from Keynes. If you don’t read that book, you don’t really understand Keynes”; King (1994:362).

³ As Davidson states in Colander (2001:90): “I remember that when we submitted the manuscript to a number of publishers, they all disliked the title. We sent it out, and everybody said, “Change it to Macroeconomics” or something like that. We insisted on the title ... When it didn’t sell the editor and the publishers said, “We told you so!””.

⁴ As stated in the preface to the book: “What this book offers, which other texts do not, is a treatment of Keynesian theory into which price theory has been directly incorporated ... Once a bridge between micro- and macroeconomics is established, it becomes possible to call upon all the theoretical concepts and generalizations of microtheory to increase our understanding of price level and employment phenomena”; Davidson & Smolensky (1964:xi & xii).

⁵ Some very good introductions to Davidson – his career and his writings – is given in Colander (2001), Holt et al. (1998), Rotheim (1996) and King (1994).

The future is truly uncertain in the sense that you cannot predict it in any reliably manner by examining existing economic data; e.g. Davidson (1984:572 & 2003-4:253): “Keynes (1936, Ch. 12) rejected this view that past information from economic time series realizations provides reliable, useful data which permit stochastic predictions of the economic future ... Keynes’s nonergodic uncertainty and animal spirits concepts ... means that although we can have perfect hindsight, there is no lens that can provide corrected vision regarding the future.

Entrepreneurial vision of the future is not faulty, but is, instead, based on dreams or nightmares”⁶. Therefore, you have to acknowledge as Davidson goes on arguing that: “Keynes’ uncertain future involves a creative economic reality in the sense that the future can be permanently changed in nature and substance by actions of individuals, groups (e.g., unions, cartels), and/or governments, often in ways not completely foreseeable by the creators of change ... In a nonergodic environment ... this existing market information does not, and cannot, provide reliable data for forecasting the future”; Davidson (1996:482).

Secondly, Keynes rejected the neutrality of money axiom and broke away from the economic reasoning that has to do with the understanding imbedded in what is termed the classical dichotomy. Money certainly matters as they may indeed have a major impact on real economic affairs in the short as well as also in the longer run; monetary policy can in many ways crucially determine the outcome and the performance of modern economies, e.g. Davidson (2003-4:269): “Consequently, in an economy with a money whose elasticity of production is zero or negligible, and where the products of industry are not gross substitutes for nonproducible liquid assets, then money is never neutral. That is the world of Keynes’s *General Theory* and the one dealt with in Post Keynesian economics”⁷.

And finally, Keynes did not accept what Davidson calls the gross substitution axiom meaning that substitution between assets is never perfect. Not everything is a substitute for everything else; e.g. Davidson (1984:567 & 568-69): “a basic axiom of Keynes’s logical framework is that nonproducible assets that can be used to store savings are not gross substitutes for producible assets in savers’ portfolios ... In the absence of the axiom of gross substitution, income effects (e.g., the Keynesian multiplier) predominate and can swamp any hypothetical neoclassical substitution effects. Consequently, relative price changes via a flexible pricing mechanism will not be the cure-all “snake-oil” medicine usually recommended by many neoclassical doctors for the unfortunate economic maladies that are occurring in the real world”⁸.

Seen from the perspective of Keynes and the Post Keynesians, at least to the Keynes-like tradition in Post Keynesianism á la Paul Davidson, ‘time, uncertainty and money’ are core elements which have to be addressed when we try to elaborate and develop our understanding of the workings of a modern monetary macro economy. With Arestis (1996:114), Post Keynesians in general would argue that you have to acknowledge that: “The economy operates subject to a *historical* process in an uncertain world, where *expectations* inevitably have significant effects on economic outcomes. Social, conventional, political and other *institutions* shape economic events, and their evolution is studied carefully”⁹.

⁶ A discussion of the concept of true or strong or fundamental uncertainty is given by e.g. Dequech (1997, 1997a & 1997b). A discussion of some macroeconomic consequences that follows from accepting the existence of such a kind of uncertainty is given by Olesen (2010).

⁷ Or as Davidson explains it in Davidson (2007:29): “Once the neutrality of money is rejected ... then an organizing principle for studying the level of employment and output in a market economy involves: (1) comprehending the role of money as a means of settling contractual obligations and (2) understanding the essential role that liquidity plays in determining the flow of production and employment in the economic system in which we live”. From the very beginning of his career, Davidson had a strong feeling of the importance of the finance motive to the Keynesian analysis; e.g. Davidson (1965 & 1967). As he said himself: “Sidney’s aggregate supply plus the finance motive was what broke the code of the *General Theory* for me. Those two things together were really what made me a post-Keynesian”; King (1994:364).

⁸ “if the axiom of gross substitution is not ... imposed ... then the theory cannot demonstrate that all markets (including the labor market) will clear simultaneously even if all prices are instantaneously flexible”; Davidson (2007:31).

⁹ And that is exactly why: “Post-Keynesian economics is concerned with non-equilibrium, non-market clearing analysis and change over time ... Institutional structure and industrial organisation are continuously evolving, influencing the

3. A Text Book by Davidson and Smolensky

From the very beginning of the book the heritage of Keynes is evidently present, as the first very interesting chapter of Part I of the book is devoted to outline the fundamentals of the macroeconomic model presented by Keynes in his famous Chapter 3 on ‘The Principle of Effective Demand’ in *The General Theory*, a model that is also going to be the macroeconomic model of Davidson & Smolensky. And contrary to Keynes, the authors offer a graphical illustration following the presentation given by the two authors’ professor Sidney Weintraub – see Weintraub (1957 & 1958) – of the working of this macroeconomic model. A more thoroughly presentation of this macro model is given in Chapter 10, see below.

Based on expectations, the outcome of the macro economy is determined by the intersection of the aggregate supply and the aggregate demand functions, Z and D, where the expected revenues is drawn as a rising convex curve with an increasing slope and the demand expenditures is drawn as a rising concave curve with a declining slope: “The value of total spending as given by the aggregate demand function where it is intersected by the aggregate supply function will be called *effective demand*. It represents an equilibrium level of spending, where entrepreneurial expectations are just being realized, so that there is no inducement to change hiring policy”; Davidson & Smolensky (1964:6).

Based on expectations to a truly uncertain future, it is not given that agents’ individual behaviour in total would be able to bring about a macroeconomic outcome that guarantees full employment. Not surprisingly then, the main focus in the economic analysis of both Keynes and Davidson & Smolensky is on the two core elements: expectations and uncertainty. As pinpointed by the latter two authors: “In the real world, however, uncertainty is important and affects all economic activity. Many of the institutions of our modern economy would have no function in a world of certainty ... The supply function is usually thought to be based on short-term expectations, while the demand for investment goods is based on long-term expectations ... Both long- and short-term expectations are relevant for the hiring decisions. Actual sales are irrelevant except to the extent that they modify present or future expectations”; op. cit. pp. 7 & 8.

With this conclusion up front, the scene is set for Davidson & Smolensky to conduct their economic analysis. First the demand side of the macroeconomic model has to be presented. This is the content of Part II of the book. While Chapter 3 has to do with the consumption function in a traditional 45° diagram setting¹⁰, Chapters 4 and 5 deals with the investment function (the schedule of the marginal efficiency of capital and the acceleration principle). Here we are told, that because investment purchases can be very volatile as they depend upon expected future returns even many years ahead from now¹¹, they might much more easily than what is in general the case with consumption decisions trigger off an economic expansion or contraction.

historical development of economics in the process, and play a vital role in terms of the determination of the level and composition of output, the generation of surplus and its distribution”; Arestis (1996:118 & 119). Or as stated by Rotheim (1999:83): “The historical evolution of a social system is path-dependent, meaning that the social world is not only too complex to know ... but that how things are and how they are perceived depend on context and are therefore unknowable in a systematic sense”.

¹⁰ This presentation is supplemented by a short but most interesting discussion of other determinants of the level of consumption than that of income: 1) tastes; 2) Socio-economic characteristics; 3) the rate of interest; 4) wealth; 5) consumer credit; 6) taxes; 7) total population, and 8) income distribution.

¹¹ “Plant, much equipment, and residential construction are long-lived capital goods of considerable initial cost. The investor may have to wait ten, fifteen, perhaps even twenty-five years before the profitability of an investment is proved. Belief that the purchase of so long-lived a good will be profitable, therefore, involves a bold plunge into an unforeseeable future ... But investment decisions must be made, and they are made. They are made with one-third fact and two-third animal spirits. These animal spirits largely depend on the mood of the business community”; op. cit. pp. 51 & 52. In short, that is individual behaviour is based on conventions and rules-of thumb rather than on the actions made by the rational economic man as a perfect intertemporal optimizing economic unit.

Therefore, we are advised to look very carefully into the decision making process of capital accumulation. To decide to invest or not is primarily depended upon whether or not the marginal efficiency of capital is above or below the rate of interest. That is, investment decisions have to do with matching expected and uncertain future returns with present real costs. As a consequence of this, such a decision can be a very troublesome one to carry out the right way¹².

In sum, because investment decisions are fundamentally based on expectations made on probably imperfect information to a fundamental or strong kind of uncertainty about future events, investment purchases might be very volatile indeed as history has repeatedly shown us. Output fluctuates as a consequence of the existence of business cycles. And due to the multiplier, volatile investment decisions induce even greater fluctuations in aggregate demand and output than the investment fluctuations themselves. Therefore, the schedule of marginal efficiency is not a stationary function. It might shift considerably over time: “The instability of the marginal efficiency of capital schedule is a major source of instability in the level of economic activity. As long as expectations about an uncertain future remain ephemeral, they will remain unpredictable, and will impose a permanent and drastic limitation on the ability of economists to forecast the course of business”; *op. cit.* p. 54. This fact has or rather should have implications for the economic apparatus used by economists: “These uncertainties are often lost sight of in more formalistic and determinate economic models, yet it is precisely these uncertainties which are at the root of economic instability in market economies”; *op. cit.* p. 54. That is, according to the authors, there are surely limitations to the knowledge that can be gained by using a more mainstream-like mathematical general equilibrium representation of the real world (to use a favorite concept of Davidson).

Chapter 6 has to do with the simultaneous determination of total output and the rate of interest. With the liquidity preference function in place and an exogenously determined supply of money the CI/LM macroeconomic model of Davidson & Smolensky can be put forward. In many ways this model looks a lot like the IS/LM model. Though, at least two distinct differences exist between the two models. Firstly, the CI/LM model explicitly has the liquidity trap incorporated as a horizontal part of the LM curve. Secondly, because the CI curve is depended upon the marginal efficiency of capital this curve has implicitly entrepreneurs’ expectations build in its functional relationships: “If, for example, the marginal efficiency of capital schedule rises as entrepreneurs become more optimistic, then the CI schedule would shift outward”; *op. cit.* p. 91.

Finally, it is not given by certainty that the intersection of the two curves will automatically bring about a situation with full employment. If total output is below that of full employment monetary policy might do the trick by itself. If this policy change in itself is not enough, an expansive fiscal policy change has to be introduced to ensure that the level Y_{MAX} can be reached. How the government may be able to manipulate the level of output through a fiscal policy change designed accordingly to the principle of functional finance, is the topic of the next chapter. Here we are told that to ensure an optimal level of macroeconomic output involves more than just the economic reasoning of the individuals themselves.

We have to give way to a much broader economic perspective, namely to that of society¹³. Besides presenting fiscal policy within the framework of the balanced budget theorem in Chapter 7, a more general discussion of policy changes is given including for instance how the interest rate might be affected by fiscal policy changes.

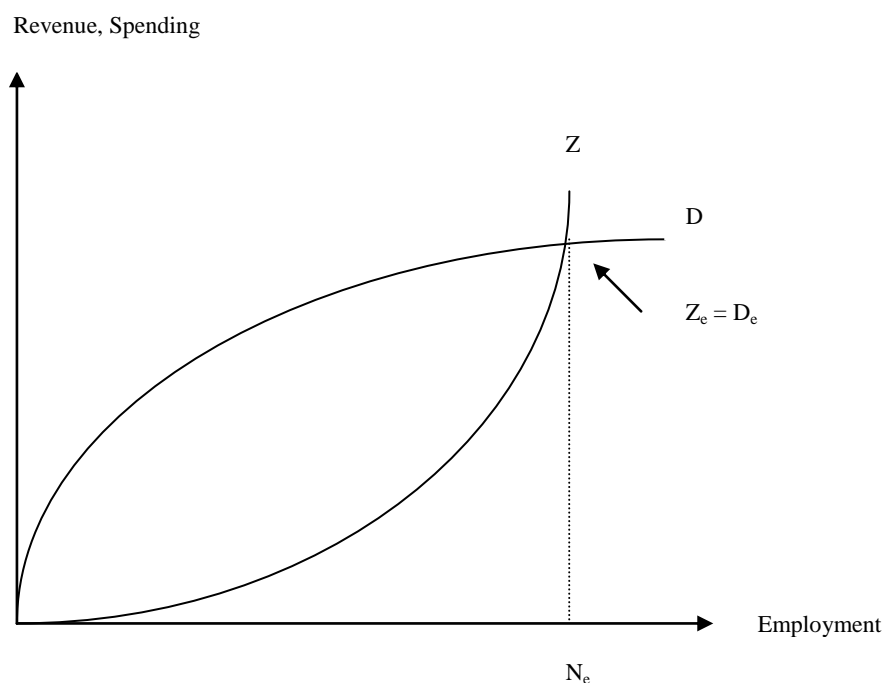
¹² “Moreover, there is great uncertainty about what the future return will be. To paraphrase Keynes, the entrepreneur who has to make a practical decision as to his scale of investment, does not entertain a single undoubting expectation of what the future earning stream will be. Several hypothetical expectations are held, each with varying degrees of confidence”; *op. cit.* p. 44.

¹³ “Since individuals cannot be expected to act against their own self-interest, some goals can be achieved only by a coordinated effort on the part of the whole community; and normally only government can mobilize such an effort”; *op. cit.* p. 95.

And finally, we are told that fiscal policy might also change the distribution of income and affect profit expectations held by entrepreneurs that would be expected to have consequences not only concerning the pattern of consumption but also influencing the marginal efficiency of capital schedule and thereby the decisions to invest. So to grasp the full effect of a given fiscal policy change is a very complicated task indeed to perform. In Part III of the book the focus is on the supply side of the macro economy. Chapter 9 and 10 give us the aggregate supply and demand functions.

And although the aggregate supply function “links expected sales revenue to employment”, op. cit. p. 118, the understanding of the supply side of the economy is quite traditional and mainstream-like in its content¹⁴ as for instance the assumption of the existence of purely competitive goods markets (though it is argued that changes in monopoly conditions could alter the slope of the aggregate supply function). The aggregate supply curve is of course an upward sloping one (expected to be linear or convex) and primarily dependent upon the money wage rate¹⁵. Likewise, the aggregate demand function is made dependent upon four factors: consumption, investment, governmental purchases and foreign trade. Finally, the macro model of Keynes is once again reproduced determining the level of effective demand; below reproduced as Figure 1.

Figure 1: The Principle of Effective Demand



And as pinpointed by Davidson & Smolensky (1964:145 & 146): “When entrepreneurial expectations of revenue equal Z_e , they will hire N_e workers, and will discover that the concomitant demand outlays (D_e) are such that their expectations are just fulfilled. At that point, *ceteris paribus*, there will be no inducements to change the employment level ... The value of total spending as given by the aggregate demand function where it is intersected by the aggregate supply function is called *effected demand*. Effective demand is the point where aggregate spending equals aggregate expectations of sales; it represents an equilibrium level of expenditures, where entrepreneurial expectations are just being realized so that there is no inducement to change hiring policy”.

¹⁴ As Davidson & Smolensky state themselves: “This model will view the economy as being driven by two innately countervailing forces: (1) short-run profit maximization by entrepreneurs which underlies supply conditions, and (2) utility maximization by consumers and long-run profit maximization by entrepreneurs which form the foundations of aggregate demand”; op. cit. p. 117.

¹⁵ For more details on Keynes’s employment function (and the AS schedule) see e.g. Davidson (1983, 1983a & 1962).

Then follows two very important chapters; firstly, Chapter 11 discusses how the money wage rate becomes endogenously determined. To be able to analyse the behaviour in the labour market, Davidson & Smolensky starts out presenting three types of potential labour demand curves: a) the traditional downward sloping curve representing the classical thinking, b) a vertical perfect inelastic curve representing the thinking of Keynes, and finally, c) an upward sloping curve representing the scenario with a situation of underconsumption.

Having done this, the authors shortly discusses which one might be the relevant curve to use in their analysis. They conclude that there often is empirical evidence to let the demand for labour be represented by the traditional classical curve¹⁶. Regarding the supply curve of labour, the authors accept without any hesitation the normal upward sloping one. Putting the two curves together, a situation of full employment is identified where the demand and the supply for labour equals one another. And the number of people employed in a situation of full employment may vary as the level of effective demand in the economy changes as Davidson & Smolensky points out: "an increase in effective demand at full employment is likely to induce a small change in the level of total employment and a large increase in the money-wage rate"; op. cit. p. 171. Finally, they discuss the case of involuntary unemployment. A bit astonishing, they do not explain the existence of such an outcome due to a lack of effective demand. Rather they argue that the supply of labour could have a perfect elastic floor which is set by institutional factors (e.g. a union scale salary or federal minimum wage laws).

Then we come to Chapter 12 which introduces three basic types of inflation. The price level could rise due to movements along a given aggregate supply curve. This phenomenon is termed diminishing returns inflation. Then inflation could occur when the Z function shifts upward. In this case, we have profits inflation (due to a higher degree of monopoly power) and wage-price inflation respectively. Furthermore, inflation could also occur as a consequence of changes in the level of aggregate demand. When the D function is shifted upward we have inflation based on two reasons: a combination of diminishing returns and wage-price inflation. And Davidson & Smolensky is quite aware of the asymmetric consequences of an upward shift in D compared with a downward one. When the level of aggregate demand comes down we would naturally see a tendency towards a slowdown in the rate of inflation but not of the same numerical magnitude as when the D function shifts upward with the same amount. Downwards, only the diminishing returns inflation effect would be present. We should not expect any help from the wage-price mechanisms as: "The money-wage rate will not return to its initial level, for once the perfectly elastic segment of the labor supply curve has risen, institutional barriers will prevent its fall"; op. cit. p. 186. Finally, the problem of inflation is identified with effects of redistribution within the economy and not as normally with problems of lack of competitiveness (as would have been the case when the economic analysis is seen from the perspective of a smaller and more open economy as for instance that of Denmark)¹⁷. Of course, one should remember, that the US economy in the early 1960s was a rather closed-like economy where the exporting sector affected the level of total output only to a lesser degree. Chapter 13 is devoted to bring about a complete equilibrium model of a purely competitive and fully integrated monetary economy. Equilibrium in the goods markets as well as financially are given by relations (1) and (2) respectively, where F is income payment to rentiers (assumed to be fixed), w the money wage rate,

¹⁶ As they write: "With large and rapid changes in money-wages, monetary policy and perhaps the real balance effect will tend to mold the extremes of the demand curve for labor into the classical shape"; op. cit. p. 168. Previously though, they also noted that: "the larger the marginal propensity to consume out of gross profits, the more inelastic the demand curve for labor will be ... Because of these inflation expectations, real demand at each level of employment may not decline. Thus an inflationary psychology on the part of the public will make possible a Keynesian vertical demand curve for labor. Moreover, if the inflationary psychology was sufficiently strong, the upward sloping underconsumptionist demand curve for labor would become conceptually admissible"; op. cit. p. 166. So when the economic performance of Western economies changed from the smooth waters of the early 1960s to that of turbulence in the 1970s and early 1980s the two alternative representations – b) and c) – might have been better representations of actual labour demand behaviour than that of the classical thinking as given in the text book

¹⁷ "If there are objections to inflation, it is precisely because the effects on redistribution are predictable and the outcome is socially undesirable"; op. cit. p. 192.

N the level of total employment and i the interest rate. It is also assumed that the quantity of money is exogenously determined by the banking system.

$$(1) \quad Z = D_C(F, w, N) + D_I(i, w, N)$$

$$(2) \quad M^S = M^D = L_1(w, N) + L_2(i)$$

Similar to the analysis of Keynes, the aggregate demand is split into two components: consumption spending and investment expenditures. Likewise, the money demand consists partly of the demand for transactions and precautionary balances and the speculative demand for money. From the fundamental equations, Davidson & Smolensky derives at two functions which under the assumption of a given exogenously fixed money wage rate simultaneously determine the level of employment and the interest rate. Having established equilibrium within our economy, the authors introduce three kinds of disturbances: a) a once and for all rise in the money wage rate, b) a continuously rising money wage rate, and finally, c) expectations of a future continuously rising money wage rate. Unfortunately the given analysis is quite inconclusive regarding the effect on the level of employment and changes in the interest rate. We cannot with certainty, so it seems, argue that the level of employment drops down while the interest rate at the same time has a tendency to rise as one would normally expect to be the case when the money wage rate changes upwards.

Finally, Part IV of the book consists of two supplementary chapters. The first one is on social accounts – written by Charles Leven – and the second one is a short chapter introducing some very basic econometric applications.

4. Some Concluding Remarks

No doubt Davidson & Smolensky is much more Keynes-like in their presentation of macroeconomics than mainstream textbooks were in the early 1960s in so far that they not only adopt the macroeconomic model of Chapter 3 in *The General Theory* as acknowledged in the two book reviews by Rose (1964) and Kurihara (1964)¹⁸. Following the tradition of Keynes, Davidson and Smolensky throughout their entire analysis have a strong focus on expectations as also stated by Sweezy (1964). The entrepreneurs decide what to supply based on what they expect would maximize their profits. And likewise, households consumes accordingly to what they expect their incomes to be given what they consider to be the right level of employment and the going money wage rate in the period to come.

As Keynes, Davidson & Smolensky also put the process of capital accumulation up front of their analysis. They fully acknowledge that investment purchases could be very volatile indeed as these decisions are based upon expected future returns even many years ahead. And entrepreneurs' expectations may very well be mistaken as the macroeconomic environment is one characterized by strong uncertainty. Finally, Davidson & Smolensky put a lot of emphasis on understanding the working of the supply side of the economy. They not only illustrate how the money wage rate might be determined endogenously but they also discuss the complicated questions of inflation by identifying three different types of inflation. In presenting the supply side of the economy as they choose to do, the authors seem to acknowledge the economic analyses that Keynes himself gave in his Chapter 21 on the theory of prices. With Rose (1964:663-64): "Their main achievement is, perhaps, to have put into the student's hands the keys that unlock Keynes' somewhat forbidding Book V, and to have shown that its contents are still worth examining".

As Paul Davidson himself has pointed out, he was rather disappointed considering the lack of success of the book. It never became a bestseller nor seen as *the* fundamental Post Keynesian textbook. One might ask why?

¹⁸ At the same time Kurihara finds the content of Davidson & Smolensky less Post Keynesian than other macroeconomic contributions within the framework of this theoretical research programme in so far that they put more neoclassical emphasis to the supply side of the economy. Likewise, Kurihara (1964:770) concludes that: "The book as a whole would appeal to micro-oriented students of static macrotheory with a considerable amount of training in the neoclassical theory of value and distribution".

Perhaps one of the answers should be found in the adoption made by the authors of the macroeconomic model of Keynes. An economic analysis based on the principle of effective demand has never had the simplicity and elegance as the more straightforward 45° diagram, the IS/LM or AD/AS models. As Cummins (1964:156) points out, a rather high level of abstraction is maintained throughout this very short textbook making students to require “considerable intellectual maturity and a solid background in price theory” to be able to gain from reading the text. Furthermore, there is the question about how to handle expectations the right way. Many economists may in principle agree with Keynes and the Post Keynesians that economic agents have to form expectations perhaps even based on imperfect information about relevant matters when acting in a macroeconomic environment of a truly uncertain future. However, to model these expectations the right way is a rather tricky puzzle to solve. If the relevant economic environment is one of non-ergodicity then the process could indeed be very complicated to understand and even much more complicated to formulate theoretically as well as in more practical terms. On this account, there is not must help to find in Davidson & Smolensky.

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