

**Macroeconomic analysis and individual economic rationality:
some lessons from Wicksell, von Mises and Schumpeter ***

by Richard Arena and Agnès Festré**

(LATAPSES – DEMOS – CNRS / University of Nice – Sophia Antipolis

Provisional Draft

* Contribution to the conference: "The Monetary Theory Tradition and Perspectives" in honour of Augusto Graziani, Benevento (Italy), University of Sannio, 5-6 December 2003.

** The authors belong to the LATAPSES (Department "Dynamics of Economies, Markets and Organizations").

Introduction

The purpose of this contribution is to investigate the problem of the room attributed to individual economic rationality by circulation approaches. The expression ‘circulation approaches’ here refers to an analytical framework in which income distribution, production and exchange activities cannot be simultaneously implemented on interdependent markets but are organized according to a given logical and chronological order which implies the pre-eminence of the *production* of commodities and of the existence of the means of payment that permit the *circulation* of these commodities (Arena 1985, p. 47). This definition is close to the one Deleplace and Nell (1996) used to invoke what they also called the ‘circulation approach’. Our investigation will not privilege however the modern contributions of this approach (see Graziani 2003a, Chap.1). It will instead utilize the works of some economists of the past, namely, Knut Wicksell, Josef Schumpeter and Ludwig von Mises. The reason of the choice of these three authors is that their respective contributions to economic analysis belong to what Leijonhufvud called the “Wicksell Connection theories” (Leijonhufvud 1981, p. 132). These theories claim that the “use of the saving-investment approach to income fluctuations is predicated on the hypothesis that the interest rate mechanism fails to coordinate saving and investment decisions appropriately” (Ibid.). Within this context, Schumpeter’s theories of money and economic progress appear to be two possible extensions of Wicksell’s original work. Now, our view is that, by contrast with Wicksell’s economic theory, Schumpeter and Mises’ ones give an essential role to individual economic rationality. Our explanatory conjecture on this contrast is that the place afforded to individual rationality is directly related to the stress put by the contributions of the two latter economists on the necessity of building a true theory of economic dynamics. If this conjecture proves to be right, it will be possible to reconsider the place of individual economic rationality within the

analytical framework of circulation approaches in the light of the process of transition from static to dynamic analysis. Our investigation involves four steps. Our first section will recall how the modern 'circulation approach' considers the problem of the compatibility between economic individual rationality and macroeconomic analysis and how this problem emerged in Wicksell's original theory of a pure credit economy. Section 2 will focus on the transition from Schumpeter's circular flow to economic development and show how it is directly related to the problem of economic rationality. Section 3 will show that Mises' conception of economic progress emphasizes the importance of consumers and producers' individual behaviours. In the last section, we will finally draw some conclusions from our previous investigation of Wicksell, Schumpeter and Mises' works and confront them to the developments of the modern circulation approach.

A. Individual economic rationality and macroeconomic analysis: Wicksell after the modern circulation approach

Modern contributions to the circulation approach never focused on individual economic rationality. For instance, one finds very few references to it in the various books of Bernard Schmitt, the father of the modern theory of the monetary circuit (see for instance, 1960, 1966, 1971, 1972, 1975, 1977, 1984). One could attribute this relative silence to the fact that individual economic behaviors do not matter within the framework of the modern circulation approach. However, a more thorough examination of the different contributions belonging to the theory of the monetary circuit rather shows some substantial disagreement between the different economists belonging to this analytical tradition. The reasons of this relative silence are related to the disagreement between modern circuit theorists on these issues. Lavoie, for

instance, characterises what he calls the ‘post-classical paradigm’ as a “form of holistic approach or of organicism” (Lavoie 1992: 10). The expression means that:

“Although individual choices are not necessarily denied, they are severely constrained by the existing institutions, social economic classes, social norms and social pressure and even macroeconomic events. Individual behaviour is interdependent. The social context places an important role in the manner beliefs are formed. Institutions embody values to which an individual is habituated. Individuals can influence and are influenced by their social environment.” (Lavoie 1992: 10)

According to us, in spite of what Lavoie pretends, his conception appears to be rather an intermediate or a conciliatory position between individualism and holism. Our interpretation seems to be confirmed by his defense of the notion of ‘procedural’ against ‘substantive’ rationality and by the importance he attributes among the “foundations of post-Keynesian economic analysis” to the respective theories of choice (see Chap. 2 of Lavoie 1992) and of the firm (see Chap. 3 of Lavoie 1992).

Graziani’s view seems to be more anti-individualistic than Lavoie’s one. Referring to some criticisms of neo-classical analysis outside the modern circulation approach, he notes:

“Most if not all of these criticisms do not reject the individualistic approach typical of neo-classical theory. On the contrary, according to circuit theorists, so long as this approach is preserved, the fundamental limits of neo-classical theory are not overcome. The first and most important of those limits, according to circuit theorists, is that any theory based on an individualistic approach is necessarily confined to microeconomics and is unable to build a true macroeconomic analysis.” (Graziani 2003a: p. 18)

According to Graziani's view, this does not mean that there is no space at all attributed to economic individual behaviours within the context of the circulation approach. However, what the previous quotation implies is that individual behaviours are always submitted to macroeconomic independent laws. In a recent paper, Graziani observes that, within the circulation approach,

“the individual behaviour is only considered in a second stage; it is derived from macroeconomic conditions and has to be considered as the behaviour that agents ought to adopt in order to ensure the durability of the current economic system.” (Graziani 2003b: 124)

Graziani's conception is therefore perfectly clear and means that economic behaviour can never be the *primum mobile* of economic activity or dynamics. Moreover, macroeconomic analysis is based on its own independent foundations and it can only compel macroeconomic behaviours. Therefore, the idea of microfoundations of macroeconomic analysis has to be discarded whatever its rationale (economic aggregation or social interaction) can be.

Cencini's standpoint is even less individualistic and more holistic than Graziani's one. It consists in an entire denial of any form of microfoundation and leads Cencini to criticize post-Keynesian and circuit theorists, noting that:

“They are unable to get entirely rid of the microfoundations and to provide an analysis in which the monetary 'structure' is completely independent from the agents' behaviour. Asserting that the agents' behaviour must be compatible with the structure of the system in order that it could be perpetuated (see Graziani 2003b) amounts to identify the monetary structure with a system of rules that economic agents are free to accept or to reject. Actually, the 'structure' which depends on macroeconomics is a set of laws that imposes upon agents.” (Cencini 2003: 224)

These three examples are sufficient to show that, if there is a general agreement among circuit theorist to reject the notion of microfoundation as it is currently used in standard microeconomics, the disagreement on the reasons of this rejection points out the absence of a clear justification of the necessary neglect of individual economic rationality within the circulation approach. As we noted in the introduction of this contribution, our conjecture is that an investigation in the field of the history of economic analysis can help to shed some light on these issues. This investigation will naturally begin with Wicksell since, as Graziani noted,

“under a strictly chronological criterion, the first description of a monetary circuit is found in Knut Wicksell’s rightly celebrated monograph on *Interest and Prices*.” (Graziani 2003a: 1)

and

“Wicksell’s analysis strongly influenced a number of authors belonging to the Austrian and German schools, both having a long tradition in the analysis of money and banking.” (Graziani 2003a : 2)

Various interpretations of Wicksell’s monetary theory are provided within the literature. Everybody reminds the puzzling orthodox interpretation of Patinkin (Patinkin 1965 Chap. VIII and Note E). It is clear however that to-day, more and more authors consider Wicksell as one of the main forerunners of the circulation approach (see, for instance, de Boyer 1985, Chamchiev 2003, Chiodi 1983, Graziani 2003a, Nell 1967, Realfonzo 1998). This is not surprising. On the one hand, Wicksell’s conception of the circular flow is close to the classical scheme of reproduction and its sequential organisation: as François Quesnay and James Mill before him, Wicksell refers to a ‘year’ defined as a period during which

expectations, production and market transactions succeed before to give birth to a new economic period. On the other hand, Wicksell distinguishes between five groups of economic agents that the literature often identifies with social economic classes: entrepreneurs, workers, capitalists, natural resources owners and bankers. Each of these classes has a role to perform in the period in order to permit the reproduction and perpetuation of the economic system. What is striking is that, in Wicksell, this role seems to be perfectly independent from any economic individual rationality. However, one could hardly consider that Wicksell consciously preferred methodological holism to individualism. One must not actually forget that, as Menger or Walras, he always mentioned that entrepreneurs were profit maximizers; noting that: “everything (...) follows from the Economic Principle viz. that the entrepreneur strives for the greatest possible profit” (Wicksell 1965 [1898]: 131). Moreover, he provided a rational reformulation of the Austrian capital theory in terms of marginal productivity, so that the net yield of real capital is made to depend upon the higher marginal productivity of the services of labour and land when invested in real capital. This meant that he formulated an assumption of maximization of the net yield, which required that the investment period could extend in all case to a point where any further lengthening would involve an increase in marginal productivity which is less than that which would be achieved by a corresponding lengthening elsewhere. Therefore, it is clear that the reason of his neglect of individual economic rationality is not at all related to an illusory hostility towards methodological individualism. According to us, it rather lies in the static nature of his economic analysis: in a stationary state as the one characterised by Wicksell, the prevailing constraint is the macroeconomic necessity of the simple reproduction and this constraint leaves little space for taking individual economic behaviours into account.

On the one hand, one must not forget that, according to Uhr, one of the most informed commentators of Wicksell’s economic theory,

“It is evident that Wicksell’s models left much to be desired. The main difficulty with them was that they were too near-static in nature, and that the economy confines to producing only consumption goods, left no room for introducing changes in the structure of capital or in the length of the period of investment.

The upward process, which is stalled if entrepreneurs sell the increased output at a reduction in price, can only get off dead center if the dimension of capital structure or the period of investment is variable. The increased in productivity that raises the natural rate above the loan rate may then become the occasion for introduction of longer production processes by shifting some resources from production of consumption goods to production of intermediate goods.” (Uhr 1960: 245; see also Lindahl 1969: 43)

These remarks are the consequence of the fact that Wicksell predominantly focused on monetary theory and, therefore, chose the context of a stationary state to facilitate his analytical project. Wicksell’s cumulative process is prevalently monetary and if, during the second year of the process, the productivity of capital is increased, it is exogenously determined and the mere reason of this increase is to permit the emergence of a positive gap between the natural and the monetary rate. One must remind that, at the beginning of the cumulative process, productive factors are fully employed. Therefore, this positive gap only creates a *tendency* to the increase of the national output and does not imply an *actual* variation. Therefore, if the cumulative process may terminate in a crisis of hyperinflation or deflation, it is clear that the maladjustment it may generate in production, in the capital structure and with respect to employment and income distribution are on the whole ignored by Wicksell.

On the other hand, as Boianovsky (1995) recently wrote, Wicksell was aware of the opposition between static and dynamic economic analysis in economics and realized that he was unable to give a contribution to the second one. This is why he limited his analysis to

stationary states and uniform growth paths (Boianovsky 1995: 378–83). As Boianovsky again noted, he even expressed his doubts concerning the possible project of building a business cycle theory (Boianovsky 1995: 376). It is no surprise, therefore, that in the second edition of the first volume of his *Lectures*, he described the theory of the trade cycle and crises as a “field which is still the darkest in the whole province of economics” and noted that “we have, throughout [this volume] restricted our observations to the economic phenomena of equilibrium in the ordinary sense –to static analysis as distinct from dynamic” (Wicksell 1911: 221, quoted by Boianovsky 1995: 397).

We would be therefore inclined to conclude that the reason why the role given to individual economic rationality is so limited in Wicksell’s analysis comes from the fact that his natural analytical framework corresponded to a stationary or a steady state, which implies that agents transactions are entirely submitted to the necessity of the reiteration of their initial endowments and of the perpetuation of the current productive techniques. Our argument is however insufficient. We need now to show that ‘neo-Wicksellian’ authors who introduced economic progress in their analytical framework were compelled to attribute a substantial role to individual economic rationality.

B. Economic rationality, Circular flow and economic development in Schumpeter

Schumpeter mentioned Wicksell as one of the major economists who exerted an influence on the elaboration of his monetary theory. This is not surprising. Wicksell’s theory of a pure credit economy is very close to his own theory of the circular flow and, after Wicksell,

Schumpeter is certainly one of the economists of the beginning of the XXth century who attributed such a great importance to the role of credit in market economies.

Schumpeter's concept of the circular flow describes the process of the simple reproduction of an economy (see, for instance, Schumpeter 1956 [1917/1918]: 151–52). In *Money and the social product*, for instance, the succession of circular flows over time that Schumpeter describes in some detail fits well with what elsewhere he calls 'the classic scheme of the economic process' in a stationary state, belonging to the conception of '*advance economics*' (Schumpeter 1954: 554 and 564–65). If, instead, we use the notion of 'synchronisation economics' he attributes to the marginalist approach, the idea of successive circular flows over time is, however, also compatible with Wicksell's circular flow. As in Wicksell, the circular flow appears to be a monetary circuit and, within this context, money has only one role to perform, namely to allow monetary transactions. This is why, at the end of the first chapter of *The Theory of Economic Development* dedicated to the analysis of the circular flow, he notes:

“We have so far considered money solely as a circulating medium. We have had in view the determination of the value of only those quantities of money which are actually used for the movement of the mass of commodities periodically. Obviously there are also in every economic system, for well known reasons, non-circulating quantities of money, and the determination of their value is not yet explained. For so far we have not learned of any employment of money which necessitates an accumulation beyond the measure that enables the individual to pay for his current purchases. (...) In any case, in the normal circular flow, which we have in view here, no holding of important stocks of money for other purposes would be necessary.” (Schumpeter 1934: 52–53)

Money is therefore analysed by Schumpeter as a 'claim ticket' and 'receipt voucher' recognised by every agent in the economy as socially valuable. In this framework and as in

Wicksell, money can be indifferently gold, cash, paper or bank money. The quantity of money in circulation is determined by the amount of the national income if bank money does not exist. If credit exists, the velocity of circulation of money then permits to compensate for the possible excess demand of money. Moreover, Schumpeter characterises the role of agents in the production and exchange activities and in the distribution of income in the circular flow as the result of the functions they perform within socio-economic classes as in the Wicksellian macroeconomic scheme.

However, individual economic rationality is not absent from the Schumpeterian approach to the circular flow and this is a crucial difference that we will note between the Wicksellian and the Schumpeterian conceptions. One of the reasons which convinced Schumpeter to take individual economic rationality into account, even within the analysis of the circular flow is related to the dynamic problem of the stability of general equilibrium. Schumpeter indeed rejected the Walrasian theory of *tâtonnement* and instead tried to explain an empirical tendency to equilibrium by employing the concept of ‘routine’:

“The individual household or firms acts, then, according to empirically given data and in an equally empirically determined manner (...). Everyone will cling as tightly as possible to habitual economic methods and only submit to the pressure of circumstances as it becomes necessary. Thus the economic system will not change capriciously on its own initiative but will be at all times connected with the preceding state of affairs.” (Schumpeter 1934: 8–9).

The solution to the existence of a tendency towards equilibrium is therefore to be found in the nature of economic behaviour:

“All knowledge and habit once acquired become as firmly rooted in ourselves as a railway embankment in the earth. It does not require to be continually reserved and consciously reproduced, but sinks into the strata of subconsciousness. It is normally transmitted almost without

friction by inheritance, teaching, upbringing, pressure of the environment. Everything we think, feel or do often enough becomes automatic and our conscious life is unburdened of it. The enormous economy of force, in the race and in the individual, here involved is not great enough, however, to make daily life a light burden and to prevent its demands from exhausting the average energy all the same. But it is great enough to make it possible to meet the *ordinary claims*. This holds good likewise *for economic daily life*.” (Schumpeter 1934: 84, emphasis added)

Therefore, the tendency towards equilibrium is ensured, according to Schumpeter, by “the rules by which the business-men form their judgement about existing business situations” (Schumpeter 1939: 6). It corresponds to what, in *Business Cycles*, Schumpeter calls the ‘general business situation’ and to the ‘ordinary routine’ this situation implies (Ibid: 3 and e.g. 40). Hence, Schumpeter’s view does not coincide with that of Walras on this point since, contrary to what he argued in 1934 (Schumpeter 1934: 10), it is not obvious that optimal behaviour is identical with routines. Not only is optimisation based on a substantive view of economic rationality that contrasts with the procedural view adopted by Schumpeter, but routines can imply satisfactory results that, given the knowledge limitation characteristic of the social environment in which agents operate, are not necessarily optimal. Schumpeter appears to be aware of these differences when he distinguishes ‘normal’ from ‘optimal’ actions, noting that:

“[i]t is society that shapes the particular desires we observe; (...) wants must be taken with reference to the group which the individual thinks of when deciding his course of action – the family or any other group, smaller or larger than the family; (...) action does not promptly follow upon desire but only more or less imperfectly corresponds to it; (...) the field of individual choice is always, though in very different ways and to very different degrees, fenced in by social habits or conventions and the like.” (Schumpeter 1934: 91)

However, Schumpeter maintained that, within the theory of the circular flow, his conception

of rationality, based on the concept of routine, and the Walrasian conception, based on the notion of optimal behaviour, were compatible. In fact, Schumpeter reinterpreted the Walrasian conception of rationality as a hedonistic-static mode of behaviour, arguing that in this sense, it was of limited validity. Hedonistic-static rationality corresponds to the behaviour of firm owners within the circular flow. In Schumpeter's view, hedonistic-static rationality is the rationality of followers who prefer to minimize their efforts to attain their ends and, therefore, to rely on routinised modes of behaviour.

It is striking to see that, in Schumpeter's view, the notion of circular flow is compatible with *adaptive* behaviours based on routines as well as with *optimal* behaviours based on cost-minimising. Moreover, we noted that, in the Wicksellian circular flow, individual economic rationality played a very limited role in the theory. These observations confirm the fact that the framework of a stationary state does not imply that some substantial role has to be left to individual economic rationality. We have now to investigate if this is still the case when we enter into the realm of economic dynamics.

How did Schumpeter cope with these issues when he left the theory of the circular flow for the theory of economic development? The answer is already contained in *Das Wesen des Geldes* and in the first German edition of the *Theory of Economic Development*. Schumpeter here distinguishes between two types of 'egoism' (1908: 86–7): we already saw that 'hedonistic egoism' describes adaptive/routine-minded or Walrasian/rational behaviour whereas the notion of 'energetic egoism' is reserved to describe an active and 'voluntaristic' behaviour based on a different kind of rationality (see Santarelli and Pesciarelli 1990: 684–7 and Arena 1992: 132–5). While these terms disappeared from Schumpeter's subsequent writings, mainly to allow him to avoid the charges of 'sociologism' or 'psychologism' levelled at him, he implicitly held on to the distinction, transforming it into a methodological device. As we already noted, this device allowed him to retain Walrasian rationality as a

specific form of behaviour valid only in the limited context of static or stationary economic states.

This reinterpretation of the Walrasian type of economic behaviour has to be related to Schumpeter's more general conception of economic rationality. According to the author, human motives are never strictly individual. Rather, they are always embedded in a social context and related to the historical circumstances under which they have emerged. From this point of view, two main concepts are essential.

On the one hand, following Wieser's conception of economic sociology, Schumpeter argues that, whatever the social environment, men are always divided into two categories: leaders and followers (see Arena and Gloria-Palermo 2001, Arena and Dangel-Hagnauer 2002, Arena and Romani 2002, Arena and Festré 2002, Arena 2004). It should, however, be noted that Schumpeter does not regard leaders as superior or 'great men' (Schumpeter 1951 [1927]: 216). They are not in possession of special intellectual qualities that would lead them to play a pre-eminent social role. Nor do they have a conscious concept of social optimality that they would strive to put into practice (Ibid.). Rather, "[w]e are content to say that social leadership means to decide, to command, to prevail, to advance. As such it is a special function, always clearly discernible in the actions of the individual and within the social whole" (Ibid: 217).

Leaders' motives are related to their 'instinctive urge to domination' (Schumpeter 1951 [1919], p. 15), an 'excess of energy' (Ibid: 34) or "activity urges springing from capacities and inclinations that had once been crucial to survival, though they had now outlived their usefulness" (Ibid: 44). These 'urges' (or this *Trieb*, Ibi: 83) are defined by Schumpeter as human inclinations that have more to do with 'instinct' than with reason (Ibid: 83–4). They involve creativity and entail permanent changes to the sphere in which they appear (be this

the arts, science, economic activity, etc.). Shionoya neatly summarises this when he writes that:

“In the first place, creative activity cannot be predicted by applying the ordinary rules of inference from preexisting facts. It is so unique that the mechanism of the *modus operandi* must be examined on a case-by-case basis. Second, creative activity shapes the whole course of subsequent events and their long-term outcome, and causes discontinuity from preceding situations. Third, creative activity is an enigma of human beings and has something to do with the distribution of talent and therefore with the phenomenon of leadership.” (Shionoya 1997: 175)

Always following Wieser, Schumpeter regards followers as playing a more passive role in that they are the mere recipients of leaders’ decisions, acting to diffuse them. They can reinforce these decisions and contribute to their social generalisation through the adoption of imitative behaviour or the manifestation of trust. But they can also resist them, slowing down the process of diffusion or sometimes even preventing the mechanisms of social diffusion from working.

On the other hand, however, leadership is not independent from the social context in which it appears. Schumpeter strongly stresses this aspect of social behaviour. First, the *Trieb* or ‘urge’ provides only part of the social explanation of leaders’ motives. Referring to warlike societies, Schumpeter argues that:

“The explanation lies, instead, in the vital needs of situations that molded peoples and classes into warriors – if they wanted to avoid extinction – and in the fact that psychological dispositions and social structures acquired in the dim past in such situations, once firmly established, tend to maintain themselves and to continue in effect long after they have lost their meaning and their life-preserving function.” (Schumpeter 1951 [1919]: 83–4)

Now, if we consider the social and historical context of the market economy, entrepreneurs appear to be the social leaders in this type of economy. This represents ‘a fundamental truth of the sociology of industrial society’ (Schumpeter 1939: 6) insofar as entrepreneurs create the ‘institutional patterns’ of economic development. The excess energy that characterised the leaders of ancient societies based on aristocratic hierarchies and military objectives now turns into what Schumpeter calls ‘energetic’ – as opposed to ‘hedonistic’ – rationality or egoism. In modern societies:

“There is much less excess energy to be vented in war and conquest than in any precapitalist society. What excess energy there is flows largely into industry itself, accounts for its shining figures – the type of the captain of industry – (...). In a purely capitalist world, what was once energy for war becomes simply energy for labor of every kind.” (Schumpeter 1951 [1919]: 90)

In market economies, excess energy is channelled into the introduction of innovations, such as new products or new productive techniques. These innovations do not result from exogenous shocks or endogenous mechanisms of technology creation generated by firm managers or owners. Rather, they are introduced by what Schumpeter called ‘New Men’ (Schumpeter 1939: 96). In other words, they presuppose the emergence of leaders who use their excess energy to promote the transition from the circular flow to economic development. Therefore, innovations and economic development appear to be the natural consequences of the particular new form of leadership that prevails in a market economy.

However, innovations do not last forever. Gradually, they are diffused throughout the economic system and transformed into routines or ‘habitual economic methods’ (Schumpeter 1934: 8). As they come to prevail, these individual routines and the resulting network of social rules or norms eventually produce the ‘institutional patterns’ that pervade the markets and influence the internal organisation of the firm.

Our previous developments show why and how, in the Schumpeterian framework, economic dynamics cannot be conceived without institutional change defined in a broad sense, namely, involving changes in social norms and values *as well as individual economic rationality*. This is the reason why, for Schumpeter, the analysis of market forms is an objective not only of economic theory but also of the ‘science of organization’ and, therefore, of economic sociology. This, of course, explains why the analysis of the evolution of forms of productive organisation received such considerable attention in his writings, be it in the context of his discussion of entrepreneurship, of capitalism’s tendency to ‘trustification’, or of their respective impact on innovations. From this point of view, a significant example of Schumpeter’s approach is contained in *Business Cycles*. Chapter 3 of its first volume (Schumpeter 1939: 72–123) is devoted to the analysis of ‘how the economic system generates evolution’. In this chapter, Schumpeter formulates his ‘theory of innovation’ (Ibid: 87–102). Apart from defining the notion of innovation, this theory – containing the essence of what Schumpeter calls ‘the sociology of industrial society’ – explains the emergence of innovations (Ibid: 96). Far from explaining innovations in terms of some kind of stochastic process or as the result of a purely economic transition from old to new production functions, Schumpeter locates them in economic sociology. This is precisely what he means when he notes that ‘innovations are always associated with the rise to leadership of New Men’ (Ibid.) and – we may add – the emergence of a new type of individual economic rationality. He justifies this view by invoking a methodological argument that directly reflects his interpretation of the relation between economic theory and economic sociology:

“The main reason for introducing this assumption [the assumption of the relation between ‘innovations’ and ‘New Men’] into a purely economic argument not primarily concerned with the

structure of society is that it provides the rationale for the preceding assumption.” (Schumpeter 1939: 96)

The emergence of entrepreneurs or the transition from ‘competitive’ to ‘trustified capitalism’ is also described as a change in the forms of organisation. This change is the result of the emergence of new men or new leaders who, through their innovative activity, generate ‘a process subject to institutional change’. Changes in the forms of organisation are therefore primarily sociological rather than economic in nature. Entrepreneurs are the new leaders who replace the owners in the circular and, in particular, old leaders. At some point in historical time and as the result of organisational change, the managers of giant firms become the ‘new’ leaders, replacing individual entrepreneurs who have become ‘old’ leader-types. Here again, the sociological distinction between leaders and followers appears to be the key to organisational transformations. From the very start, therefore, this theory of dynamics requires important conceptual changes to the economist’s toolbox and, in particular, the introduction of a new type of economic agent – the entrepreneur– as well as a new type of rationality – energetic rationality. The theory of economic dynamics does not thus involve any kind of ‘evolutionary’ belief or assumption. Instead, what it implies is a new approach, based on the combination of history with economic theory. However, building a theory of economic dynamics also implies changes within the conceptual foundations of economic analysis. For instance, one will need to explain structural changes, such as those made possible by the generalisation of credit or associated with the changes in of income distribution (Schumpeter 1908: 619). Consequently, the study of dynamics cannot be reduced to the analysis of the conditions of convergence towards some predetermined ‘dynamic’ or ‘long-run equilibrium’. Economic dynamics is a much more complex phenomenon. It encompasses at least three types of situations: situations in which the economic system approaches a state of ‘ideal equilibrium’ and appears to be moving towards it; situations in which ‘equilibrium points’ do

not exist and are replaced by ‘neighbourhoods of equilibrium’, namely ‘ranges within which the system as a whole is more nearly in equilibrium than it is outside of them’; and situations in which structural change is so strong that ‘there is no equilibrium at all’ (Schumpeter 1939: 70–1).

All the preceding developments enlighten Schumpeter’s conception of individualism. The basic question is how society and its economic systems can be analysed without reference to the existence of social classes or groups. Schumpeter clarifies his own position in his article on social classes written in 1927. Referring to the Marxian analysis of investment, he argues that:

“This view is a typical example of how bias in favor of a theory blinds the theorist to the simplest facts, grotesquely distorting their proportions. Manifestly, the captured surplus value *does not invest itself* but must *be invested*. This means on the one hand that it must not be consumed by the capitalist, and on the other hand that the important point is *how* it is invested. Both factors lead away from the idea of objective automatism to the field of behavior and motive – in other words, from the *social* ‘force’ to the *individual* – physical or family; from the *objective* to the *subjective*. It may be objected that the logic of the social situation forces the individual to invest his profits, that the individual motivation is only a fleeting intermediate phase. This is true, as far as it goes, and must be acknowledged by any reasonable person. Naturally the individual psyche is no more than a product, an offshoot, a reflex, and a conductor of the inner necessities of any given situation. But the crucial factor is that the social logic or objective situation does not unequivocally determine *how much* profit shall be invested, and *how* it shall be invested, *unless individual disposition is taken into account*. Yet, when that is done, the logic is no longer inherent solely in the system as distinct from the individuality of the industrialist himself.” (Schumpeter 1951 [1927]: 155, emphasis in the original)

For Schumpeter, therefore, the task of the social scientist is to study both, individual

particularities *and* their context as defined by social stratification, in conjunction. The importance of social classes for societal analysis derives from a number of reasons. First, ‘[t]he class membership of an individual is a primary fact, originally quite independent of his will.’ (Schumpeter 1951 [1919]: 143). Secondly, path dependency is an undeniable fact of social reality and must therefore be taken into account by the social scientist:

“(...) every social situation is the heritage of preceding situations and takes over from them not only their cultures, their dispositions, and their ‘spirit’, but also elements of their social structure and concentration of power. (...) When applied to our problem, this means, first, that any theory of class structure, in dealing with a given historical period, must include prior class structures among its data; and then, that any general theory of classes and class formation must explain the fact that classes coexisting at any given time bear the marks of different centuries on their brow, so to speak – that they stem from varying conditions. (...) [T]here are no amorphous societies in this sense – societies, that is, in which the absence of our phenomenon [social differentiation and classes, R. A. and A. F.] can be demonstrated beyond doubt.” (Schumpeter 1951 [1919]: 144–6)

Finally, in any given society, social classes correspond to specific social functions:

“Every class, in other words, has a definite function, which it must fulfill according to its whole concept and orientation, and which it actually does discharge as a class and through the class conduct of its members. Moreover, the position of each class in the total national structure depends, on the one hand, on the significance that is attributed to that function, and, on the other hand, on the degree to which the class successfully performs the function.” (Schumpeter 1951 [1927]: 179–80)

What follows from this is not however an outright rejection of methodological individualism since:

“The ultimate foundation on which the class phenomenon rests consists of individual differences in aptitude. What is meant are not differences in an absolute sense, but differences in aptitude with respect to those functions which the environment makes ‘socially necessary’ – in our sense – at any given time; and with respect to leadership, along lines that are in keeping with those functions.” (Schumpeter 1951 [1927]: 210)

Rather, both self-interest and class interest coexist in every given society (Schumpeter 1951 [1919]: 34). The relative importance of individual motivation, on the one hand, and class interests, on the other, differs according to the type of society under investigation. While in “traditional economies (...) the economy is the concern of the whole group or at least is subject to a super-individual system” (Schumpeter 1954 [1918]: 18), in the case of pure economics, the individualist approach is essential, in particular since social organisation is included in the data.

Finally, the crucial importance given by Schumpeter to economic dynamics also implies some analytical consequences on the role of credit in market economies. In contrast to Wicksell’s approach, Schumpeter’s theory does not primarily limit the role of credit to the circulation of the national income but relates it to the emergence of innovations. In a production economy, to carry out new technical combinations firms must invest, and this investment must, in turn, be financed:

“Another [problem] exists for us: the problem of detaching productive means (already employed somewhere) from the circular flow and allotting them to new combinations. This is done by credit, by means of which one who wishes to carry out new combinations outbids the producers in the circular flow in the market for the required means of production. And although the meaning and object of this process lies in a movement of goods from their old towards new employments, it cannot be described entirely in terms of goods without overlooking something essential, which happens in the sphere of money and credit and upon which depends the explanation of important

phenomena in the capitalist form of economic organisation, in contrast to other types.”

(Schumpeter 1934: 71)

This means that monetary and financial institutions are among those which must exist as a matter of ‘logical priority’ (Schumpeter 1939: 114) to render the emergence of the entrepreneur feasible. Thus, the existence of a banking system based on credit allows entrepreneurs to employ new means of production without these having to be transferred *a priori* from existing industries to innovative ones (Ibid: 114). These institutions are not simply forms of social organisation. They also take the form of new behavioural rules, what Schumpeter called ‘the attitudes of the public mind’ (Schumpeter 1950: 135). For these two reasons, they are finally an essential ingredient in Schumpeterian economic dynamics (Festré 2002a). On the one hand, the existence of credit allows the emergence of innovations independently from the initial endowments of the various individual entrepreneurs/innovators and therefore the occurrence of structural change since some firms or sectors innovate, while others only imitate. On the other hand, the individual motives of entrepreneurs drastically differ from the motives of capitalists or from the firm owners of the circular flow and society and its dynamics are influenced by their social norms or values and therefore by their relation to money (Schumpeter 1942).

C. Economic rationality, The ‘Evenly Rotating Economy’ (ERE) and the ‘Progressing Economy’ (PE) in Mises

Ludwig Mises is often presented as an inheritor of Wicksell (see, for instance, Seccareccia 1990, Laidler 1991, Bellofiore 1998, Festré 2002b, Leijonhufvud 1981) even if this filiation is sometimes underestimated in the literature. However, in contrast to Schumpeter, Mises did

not accept Wicksell's conception of the circular flow. On the one hand, his analytical framework was much larger than the Wicksellian stationary economy since he provided a dynamic framework of the working of a market economy. On the other hand, he gave to individual economic rationality a crucial role.

From this perspective, we will firstly recall Mises' distinction between statics and dynamics, as found in *Human Action* (Mises 1996 [1949]: 294). Then, we will focus on the kind of individual economic rationality that both these frameworks involve, emphasizing the fact that the dynamic framework of a 'Progressing Economy' (*PE*) requires the emergence of new types of economic agents endowed with different forms of individual rationality than the ones associated with a stationary economy. Finally, we will show why in Mises' construction credit exerts a distinct function from the one attributed by Wicksell.

Mises' conception of 'statics' is found in *Human Action* where the author contrasts the cases of an 'Evenly Rotating Economy' (*ERE*) with the case of a *PE*. Furthermore, from a methodological viewpoint, he referred to the 'method of imaginary constructions' (Mises 1996 [1949]: 249) that is to be distinguished from a mere 'description of reality' (Ibid: 245):

"An imaginary construction is a conceptual image of a sequence of events logically evolved from the elements of action employed in its formation. It is a product of deduction, ultimately derived from the fundamental category of action, the act of preferring and setting aside." (Mises 1996 [1949]: 236).

The case of an *ERE* is then conceived as an imaginary construction because it describes an economy where any factor of change and the element of time are abstracted from:

“The essence of this imaginary construction is the elimination of the lapse of time and of the perpetual change in market phenomena. The notion of any change with regard to supply and demand is incompatible with this construction. Only such changes as do not affect the configuration of the price-determining factors can be considered in its frame.” (Mises 1996 [1949]: 261).

This passage also shows that Mises does not subscribe to the representation of a circular flow for describing a stationary or static economy. According to him, the only purpose of this imaginary construction is to permit the introduction of the various factors of change that are necessary in order to build an dynamic analytical framework:

“In reality there is never such a thing as an evenly rotating economy. However, in order to analyse *the problems of change in the data and of unevenly and irregularly varying movement*, we must confront them with a fictitious state in which both are hypothetically eliminated. (...) *This so-called state method is precisely the proper mental tool for the examination of change*. There is no means of studying the complex phenomena of action other than first to abstract from change altogether, then to introduce an isolated factor provoking change, and ultimately to analyze its effects under the assumption that other things remain equal.” (Mises 1996 [1949]: 247–48, emphasis added)

From this viewpoint, Mises’ conception of statics is not far from Schumpeter’s one. As we have seen, Schumpeter’s circular flow is mainly intended to provide a basic framework in which successive factors of qualitative change are later introduced in order to deal with economic development.

By contrast a *PE* is characterised by an ‘of unevenly and irregularly varying movement’. It corresponds to “an economy in which the per capita quota of capital invested in increasing”

(Mises 1996 [1949]: 294), the capacity for savings increases and, eventually, the ratio between the value of present goods and future goods is modified in favour of the latter (Mises [1924] 1980: 386). In the meanwhile, on the production side, “the range of entrepreneurial activities includes, moreover, the determination of the employment of the additional capital goods accumulated by new savings” (Ibid. p. 295). These new investments in production goods generate an increase of the total amount of income, which is obtained either by modifications of consumers’ preferences or by the occurrence of technical innovations (Ibid: 297).

The following developments will consider these various possibilities that are associated with an economy ‘of unevenly and irregularly varying movement’.

In compliance with the so-called method of counterfactuals (see Gunning 1998) or of *argumentum a contrario*, Mises rigorously envisages the various element of change – or what he calls the ‘catallactic functions’ (Ibid: 251) – that characterise economic dynamics.

A first factor of change lies in the entrepreneurial activity. Mises indeed introduces the figure of the ‘entrepreneur-promoter’ defined as a ‘pacemaker’, or as “the one who has more initiative, more venturesomeness, and a quicker eye than the crowd, the pushing and promoting pioneer of economic improvement” (Ibid: 255).

Furthermore, the ‘entrepreneurs-promoters’ are endowed with specific behavioural features that are directly related to the necessity of perceiving and exploiting any change in economic data:

“(…) changes in the data are first perceived only by a few people and that different men draw different conclusions in appraising their effects. The more enterprising and brighter individuals take the lead, others follow later.” (Mises 1996 [1949]: 328, emphasis added).

It remains, however, the appreciation ability and the awareness of ‘promoters’ conflict with cost-minimizing or routine-minded behaviour. Mises indeed points out that:

“[a] prospective entrepreneur does not consult the calculus of probability which is of no avail in the field of *understanding*. He trusts his own ability to understand future market conditions better than his less gifted fellow men.” (Mises, 1996 [1949]: 299, emphasis added).

Moreover, although Mises champions radical subjectivist individualism (see Festré 2003b), he does not however conceived individuals as being living ‘*in abstracto*’ (Mises 1996 [1949]: 46). The man is always inserted into a socio-cultural context which influences his subjective choices. In this perspective, it is interesting to emphasise that the figure of the ‘common man’ radically contrasts with the one of the ‘promoter’: Common men, indeed, only adapt to their individuality ideas and beliefs which they inherit from the past and/or from environment:

“[the common man] does not himself create his ideas; he borrows them from other people. His ideology is what his environment enjoins upon him (...) Common man does not speculate about the great problems. With regard to them, he relies upon other people’s authority, he behaves as ‘every decent fellow must behave’, he is like a sheep in the herd.” (Mises 1996 [1949]: 46).

The distinction between ‘promoters’ and ‘ordinary men’ is important for our comment. It indeed permits to explain the diffusion of novelty by means of a social process of imitation. In other terms, common men follow ‘shared’ habits or routines that they may modify only if they are convinced that the promoters will improve their well-being (Mises 1996 [1949]: 47). This approach, in terms of shared individual beliefs, appears coherent. Mises utilises it in order to analyze the functioning of the market. The latter is not ‘a place’, ‘a thing’, or a ‘collective entity’ (Mises 1996 [1949]: 257). It is a ‘process’ allowing the compatibility between ‘value judgments’ and individual behaviours (Ibid.). In this framework, the ‘promoter-entrepreneur’

plays a leading role. Its awareness speculative behaviour turned to the discovery of new opportunities, is critical (Ibid: 329), especially since he is in the last resort submitted to the ‘sovereignty of the consumers.’ (Ibid: 269).

The concept of the ‘sovereignty of the consumer’ emphasises a second factor of novelty. It indeed permits to understand why changes in consumers’ preferences constitute a major component of dynamic analysis in Mises. Moreover, it implies the existence of some hierarchical organisation in the operation of the market, according to which the causality goes from the demand to the productive side. This is no surprise if one has in mind Menger’s analysis and knows how it strongly influenced Mises. From Menger’s perspective, subjective evaluations of the final product (first-order goods) by consumers tend to be reflected in the prices of the higher-order goods (production goods) that contribute to its completion. Under these circumstances, entrepreneurs are compelled to satisfy consumers’:

“The direction of economic affairs is in the market society a task of the entrepreneurs. Theirs is the control of production. They are at the helm and steer the ship. A superficial observer would believe that they are supreme. But they are not. They are bound to obey unconditionally the captain’s orders. The captain is the consumer.” (Mises 1996 [1949]: 269–70)

The pre-eminence of consumers reaches all the domain of market economic activity. They in fact determine the prices of all factors of production as well as the income of every member of the market economy (Ibid: 271).

Finally, a *PE* is characterised by the existence of ‘true’ money. According to Mises, there is indeed no conceivable form of money in the imaginary construction of an *ERE*:

“[I]ndirect exchange and the use of money are tacitly implied. But what kind of money can that be. In a system without change in which there is no uncertainty whatever about the future, nobody needs to hold cash. Every individual knows precisely what amount of money he will need at any future date.” (Mises, 1996 [1949]: 249)

Mises then concludes that “money is necessarily a ‘dynamic factor’” and that “there is no room left for money in a ‘static’ system” (Ibid: 249).

By contrast, in an economy of ‘unevenly and irregularly varying movement’, money performs an essential role by rendering economic calculation possible: the currency is a “tool of action” because “prices in currency are the only vehicle of economic calculation” (Ibid. p. 201) and “monetary calculation is the guiding star of action” (Ibid: 210).

Credit also contributes to the dynamics of the economy. We indeed know that capital accumulation implies a lengthening of the period of production and that this latter is practicable

“either when the means of subsistence have increased sufficiently to support the labourers and entrepreneurs during the longer period or when the wants of producers have decreased sufficiently to enable them to make the same means of subsistence do for the longer period.” (Mises 1980 [1924]: 400)

Now, the increase of credit by banks constitutes another way of obtaining a lengthening of the period of production. This observation is not surprising since it is present in the various versions of the Austrian theory of money and business cycles.

Our re-lecture of Mises’ theory of economic dynamics provides a new opportunity to contrast his views with those of Schumpeter (Festré 2002b). These differences do not conceal however the substantial analogies between both contributions. We stressed particularly how in both cases, the consideration of individual economic rationality was a key for the construction

of their dynamic analyses. It is therefore time now to draw some conclusions from these results with respect to the modern versions of the circulation approach.

Concluding remarks

Three conclusions from our investigation of the respective contributions of Wicksell, Schumpeter and Mises to the circulation approach.

- (i) the Wicksellian theory of the circular flow is founded on the concept of stationary state in spite of the existence of a cumulative process and of a gap between the two rates of interest, which is allowed by an increase in productivity. The concept of stationary state is so demanding logically that the type of individual economic rationality hardly plays a role in the analysis of the circular flow.
- (ii) The Schumpeterian theory of the circular flow is also founded on the concept of stationary state. For Schumpeter, this state is compatible with an adaptive type of behaviour based on the notion of routine as well as an optimal type of behaviour based on the principle of cost-minimizing. This observation confirms that the concept of stationary state leaves a very limited space to individual economic rationality. Quite the contrary, the investigation of the *Theory of Economic Development* shows that individual economic rationality plays a crucial role in the construction of Schumpeter's economic dynamics.

- (iii) Mises' interpretation of the Wicksellian circular flow leads to a theory of the market process. The introduction of dynamic phenomena such as changes in consumers' preferences or technical progress in this theory implies individual economic rationality to be taken into account. Even if Mises' economic dynamics substantially differs from Schumpeter's one, the rationality assumptions which found both approaches are similar, namely, based on the distinction between leaders and followers.

These reasons are not sufficient to prove that the consideration of individual economic rationality is necessary if true economic dynamics (as structural change) is to be introduced in the circulation approach. They however constitute some serious clues in favour of this conclusion. Further work has still to be done in this direction. However, previous developments are sufficient for reviving the old and nagging question of the role of individual economic rationality in the circulation approach and, especially, in its modern versions. The three conclusions mentioned indeed suggest a conjecture: are not the difficulties related to the introduction of a true dynamic analysis in the modern versions of the circulation approach (Arena, 1988) the price to be paid for the absence of individual economic rationality? The instance of B. Schmitt's contributions gives a good example of this standpoint. For this author, every creation of money and every period of production correspond to a specific individual event, namely, a 'quantic' event to use his own expression. As he wrote: "the value produced in P^{n+1} or in any successive period has strictly no relation with the value produced in P^n " (Schmitt 1971, p. 134). His contribution of 1972 is even clearer: distinguishing virtual from realized economic magnitudes, he insisted on the impossibility of relating two realized incomes belonging to two different periods. He wrote:

“Income theory. Realized incomes do not form a concatenation in time. Dynamic analysis of national income is therefore logically impossible.” (Schmitt 1972: 63 ; see also p. 112)

Obviously, since the seventies many contributions have been written which tried to criticize, correct or extend Schmitt’s approach. However, since this period, no true theory of business cycles or structural change seems to have emerged from the modern versions of the circulation approach. If our conjecture is true, the road to a possible solution to this question, as it is suggested by history of economic analysis, is to take individual economic rationality into account within the circulation approach. In this perspective, an essential analytical choice has still to be done: the modern circulation theorists are not indeed compelled either to choose the theory of substantial rationality favoured by modern mainstream economists or to accept the aggregation method of connecting micro and macroeconomic levels. This contribution is nothing more than an incentive to discuss these issues.

References

- Arena, R. 'Circulations, revenu et capital : théorie monétaire et tradition non quantitative', in R. Arena, A. Graziani and J. Kregel (eds), *Production, Circulation et Monnaie*, (Paris: Presses Universitaires de France, 1985), pp. 47–73.
- Arena, R. 'Moneta, Capitale e circolazione : problemi e un tentativo di articolazione teorica', in M. Messori (ed), *Moneta e Produzione* (Turin: Scientifica Einaudi, 1988).
- Arena, R. and Dangel-Hagnauer, C. (eds). *The Contribution of Joseph Schumpeter to Economics: Economic development and institutional change* (London: Routledge, 2002).
- Arena R. and Festré, A. 'Connaissance et croyances en économie: l'exemple de la tradition, autrichienne', *Revue d'Economie Politique*, 112(5) (2002) 635–57.
- Arena, R. and Gloria-Palermo, S. 'Evolutionary themes in the Austrian Tradition: Menger, Wieser and Schumpeter on Institutions and Rationality', in Pierre Garrouste and Stavros Ioannides (es.), *Evolution and Path Dependence in Economic Ideas: Past, Present* (Aldershot: Edward Elgar, 2001).
- Arena, R. and Romani, P. 'Schumpeter on Entrepreneurship', in R. Arena and C. Dangel-Hagnauer (eds), *The Contribution of Joseph Schumpeter to Economics: Economic development and institutional change*. (London: Routledge, 2002), pp. 167–183.
- Bellofiore, R. 'Between Wicksell and Hayek: Mises' Theory of Money and Credit Revisited', *The American Journal of Economics and Sociology*, 57(4) (1998) 531–578.
- Boianovsky, M. 'Wicksell's business cycle', *The European Journal of the History of Economic Thought*, 2(2) (1995) 315–411.

de Boyer, J. 'Taux d'intérêt et quantité de monnaie: note sur la distinction entre deux sphères de circulation chez T. Tooke, K. Wicksell, J. M. Keynes et J. A. Schumpeter', in R. Arena, A. Graziani and J. Kregel (eds), *Production, Circulation et Monnaie* (Paris: Presses Universitaires de France, 1985), pp. 371–86.

Cencini, A. 'Micro, macro et l'analyse du circuit', in P. Piégay and L-P Rochon (eds), *Théories Monétaires Post Keynésiennes* (Paris : Economica, 2003).

Chamchiev, T. 'Le circuit de Knut Wicksell', Contribution au Xe colloque annuel de l'Association Charles Gide pour l'Etude de la Pensée Economique, Grenoble, 25–27 septembre 2003.

Chiodi, G. *La teoria monetaria di Wicksell* (Rome: La Nuova Italia Scientifica, 1983).

Deleplace, G. and Nell, E. (eds) *Money in Motion. The Post-Keynesian and Circulation Approaches* (New York: Macmillan, 1996).

Festré, A. 'Innovation and business cycles', in R. Arena and C. Dangel-Hagnauer (eds), *The Contribution of Joseph Schumpeter to Economics: Economic development and institutional change* (London: Routledge, 2002a), pp. 127–45.

Festré, A. 'Money, banking and dynamics: two Wicksellian routes from Mises to Hayek and Schumpeter', *American Journal of Economics and Sociology*, 61(2) (2002b) 439–80.

Graziani, A. *The Monetary Theory of Production* Cambridge University Press, 2003a).

Graziani, A. 'Microéconomie et macroéconomie: à qui la priorité?', in P. Piégay and L-P Rochon (eds), *Théories Monétaires Post Keynésiennes* (Paris: Economica, 2003b).

Gunning, J. P. *The New Subjectivist Revolution: An Elucidation and Extension of Ludwig Mises' Contribution to Economic Theory* (Savage, Maryland: Rowman and Littlefield, 1990).

Gunning, J. P. 'The Logical Concept of Equilibrium', Free Web space and hosting - cafeprogressive.com, November 17 (1998).

Jonung, L. (ed). *The Stockholm School of Economics Revisited* (Cambridge University Press, 1991)

Lavoie, M. *Foundations of Post-Keynesian Economic Analysis* (Aldershot : Edward Elgar, 1992).

Laidler, D. 'The Austrians and the Stockholm School: Two Failures in the development of modern economics', in L. Jonung (ed), *The Stockholm School of Economics Revisited* (Cambridge University Press, 1991).

Leijonhufvud, A. *Information and Coordination: Essays in macroeconomic theory* (New York: Oxford University Press, 1981).

Lindahl, E. 'Wicksell's life and work', in Knut Wicksell: *Selected Papers on Economic Theory* (New York: Augustus M. Kelley Publishers, 1969)

Mises, L. *Theorie des Geldes und der Umlaufsmittel* (Vienna, 1912).

Mises, L. *The Theory of Money and Credit* (Indianapolis: LibertyClassics, 1980 [1924])

Mises, L. *Human Action: A Treatise on Economics*, 4th edn by Bettina Bien Greaves (Fox & Wilkes Publishers, 1996 [1949]).

Nell, E. J. 'Wicksell's theory of circulation', *Journal of Political Economy*, 75(4) (1967) 386–94.

Patinkin, Don. *Money, Interest and Prices*, 2d edn (New York: Harper and Row, 1965).

Realfonzo, R. *Money and Banking. Theory and Debate 1900–1940* (Aldershot: Edward Elgar, 1998).

Santarelli, E. and Pescarelli, E. 'The emergence of a vision: the development of Schumpeter's theory of entrepreneurship', *History of Political Economy*, 22(4) (1990) 677–96.

Seccareccia, M. 'The Two Faces of Neo-Wicksellianism during the 1930s: The Austrians and the Swedes', in D. Moggridge (ed), *Perspectives in the History of Economic Thought*, Vol. IV (Aldershot, England: Edward Elgar Publishing Ltd, 1990).

Schmitt, B. *La formation du pouvoir d'achat* (Paris: Dalloz, 1960)

Schmitt, B. *Monnaie, salaires et profits* (Paris: Presses Universitaires de France, 1966)

Schmitt, B. *L'analyse macroéconomique des revenus* (Paris: Dalloz, 1971).

Schmitt, B. *Macroeconomic Theory, a Fundamental Revision* (Albeuve: Editions Castella, 1972).

Schmitt, B. *Théorie unitaire de la monnaie nationale et internationale* (Albeuve: Editions Castella, 1975).

Schmitt, B. (1977). *L'or, le dollar et la monnaie supranationale* (Paris: Presses Universitaires de France, 1977).

Schmitt, B. *Inflation, chômage et malformation du capital* (Paris: Economica, 1984).

Schumpeter, J. A. *Das Wesen und der Hauptinhalt der theoretischen Nationaloekonomie*,

2nd edn (Berlin: Duncker & Humblot, 1908)

Schumpeter, J. A. (1934). *Theory of Economic Development* (Cambridge, Mass.: Harvard University Press, 1934).

Schumpeter, J. A. *Business Cycles*, 2 volumes (New York: McGraw-Hill, 1939).

Schumpeter, J. A. *Capitalism, Socialism and Democracy* (New York: Harper, 1942).

Schumpeter, J. A. 'Zur Soziologie der Imperialismen', *Archiv für Sozialwissenschaft und Sozialpolitik*, 46 (1951 [1919]) 1–39. Translated into English as 'The sociology of imperialisms' in Schumpeter (1951).

Schumpeter, J. A. 'Die sozialen Klassen im ethnisch homogen Milieu', *Archiv für Sozialwissenschaft und Sozialpolitik*, 57 (1951 [1927]) 1–67. Translated into English as 'Social classes in an ethnically homogenous environment' in Schumpeter (1951).

Schumpeter, J. A. *Social Imperialism and Classes*, edited by P. Sweezy (New York: Augustus M. Kelley, 1951).

Schumpeter, J. A. 'Die Krise des Steuerstaates', *Zeitfragen aus dem Gebiet der Soziologie*, 4 (1954 [1918]). Translated into English as 'The crisis of the tax state', *International Economic Papers*, 6 (1954). Reprinted in Schumpeter (1991).

Schumpeter, J. A. *History of Economic Analysis* (London: Allen and Unwin, 1954).

Schumpeter, J. A. 'Das Sozialprodukt und die Rechenpfennige: Glossen und Beiträge zur Geldtheorie von Heute', *Archiv für Sozialwissenschaft*, XLIV (1956 [1917–18]) 627–715. Translated into English by A. W. Marget as 'Money and the Social Product', *International Economic Paper*, 6 (1956).

Schumpeter, J. A. *Das Wesen des Geldes*, edited by F. K. Mann (Göttingen: Vandenhoeck & Ruprecht, 1970).

Schumpeter, J. A. *The Economics and Sociology of Capitalism*, edited by R. Swedberg (Princeton: Princeton University Press, 1991).

Uhr, C. G. *Economic Doctrines of Knut Wicksell* (University of California Press, 1960).

Wicksell, K. *Interest and Prices* (New York: M. Kelley Publishers, 1965 [1898]).

Wicksell, K. *Lectures II : Money* (New York : M. Kelley Publishers, 1967 [1906]).

Wicksell, K. *Föreläsningar i Nationalökomi*, vol. 1, 2nd edn (Lund: Berlingska, 1911).