The real and the financial sector of a monetary production economy in the perspective of classical-Keynesian political economy

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Provisional text - comments welcome

Abstract
In this paper the role of the financial sector of a monetary production economy is investigated in relation with the real sector in a classical-Keynesian perspective. It is argued that, on account of high volumes of saving and of endogenous money creation by the banks, more and more money is shifted from the real sector, where Keynes’s industrial circulation takes place, to the financial sector, in which Keynes’s financial circulation occurs. This leads on to a financialisation of the economy, implying that the financial sector increasingly dominates the real sector: Profits resulting from productive activities in the real sector now increasingly appear, through dividends and very high salaries, as the fruit of money circulating in the financial sector, implying that production becomes a means to increase monetary wealth; in this way, large parts of the social surplus produced in the real sector nourish the financial sector. Financialisation contributes to rendering the distribution of incomes and wealth more unequal. In a Keynesian vein, however, an unequal distribution of incomes is the ultimate cause of involuntary unemployment. To counter these pernicious tendencies specific policy measures are required, related to general macroeconomic policies, to financing old age pensions, and to reorganising the financial sector in relation to public debt policies.

JEL keywords: Macroeconomics and monetary economics (E); financial markets and the macroeconomy (E44); business fluctuations (32).
Other keywords: Classical-Keynesian political economy and the role of the financial sector; interaction between real sector and financial sector; financialisation.

Introduction: Problem and plan
The classical-Keynesian vision of the real and the financial sector and the interaction between both sectors is sharply opposed to the actually dominating neoclassical view. Given this, the meaning and the significance of the classical-Keynesian propositions on this subject set out here will emerge more

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1 I am greatly indebted to Sergio Rossi for most helpful comments; of course all responsibility remains mine.
2 This article is an elaborated version of a paper (Bortis 2010) presented at the VII International Colloquium Getting out of the Current Economic Crisis in the Light of Alternative Development Paradigms, organised by
clearly if compared with the neoclassical ones. The central problem is that the financial sector may become too big in relation to the real sector. Given this, financialisation may come into being, resulting in a damaging interaction between the real and the financial sector, characterised by a process of cumulative causation between unequal distribution and involuntary unemployment. Such conclusions result from the classical-Keynesian system of political economy, which forms the background of this paper. The analytical basis of the classical-Keynesian system is set forth in the article *Keynes and the Classics – Notes on the Monetary Theory of Production* (Bortis 2003b), and the classical-Keynesian system of political economy is set into a wider context of the social and political sciences and of history in *Institutions, Behaviour and Economic Theory – A Contribution to Classical-Keynesian Political Economy* (Bortis 1997/2006). On financialisation see the excellent book by Paul Dembinski (2008): *Finance: Servant or Deceiver? Financialisation at the Crossroads*.

In the first section, the role played by the financial sector in neoclassical theory is alluded to in the light of Say’s Law. Subsequently, the paradox of thrift is used to illustrate the significance of saving in a monetary production economy, which is pictured by classical-Keynesian political economy. In the third section it is attempted to answer the question as to the approach to be selected, neoclassical or classical-Keynesian. Section four deals with the real and the financial sector from a classical-Keynesian perspective. The central section five pictures the interaction between both sectors in the light of the domination of the financial sector over the real sector summarised by financialisation. In the policy conclusions some suggestions on reorganising the financial sector in relation to public debt policies are made. Methodologically, only principles are dealt with in this paper. Principles tell us how the relevant causal forces work in pure form, independently of space and time, that is, of historical considerations, which are used in this paper merely to illustrate principles.

**1. Neoclassical economics and the financial sector: exchange economy and Say’s Law**

Neoclassical theory is essentially equilibrium theory, and as a rule, a strong tendency towards equilibrium is explicitly or implicitly assumed. Prices are supposed to contain all the relevant information upon which decisions are to be taken. On account of the homogeneity of financial assets financial markets are considered most perfect. Given this, Walras considered the stock exchange the ideal market where the auctioneer can easily establish the equilibrium between supply and demand. In neoclassical theory money and finance are certainly important, not fundamentally important, however. And the relationship between money, the banking system, specifically bank credits, and financial markets and the markets in the real sector is not clear at all, if theory is compared with real world events. In fact, money is notoriously unimportant in neoclassical theory, banks channel saving into the most profitable investment projects and financial markets simply seem to reflect what happens in the

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real markets. For example, rising prices in already existing capital goods indicate higher profit rates, suggesting excess demand. Given this, share prices rise, and so does investment in new capital goods in view of increasing supply in order to get nearer to equilibrium. This vision of things implies that savings govern investment. Say’s Law holds. Given this, general overproduction and involuntary unemployment are impossible. And financial crises, in principle, cannot occur, and if they do occur, the neoclassical theorists have the greatest difficulties to explain them, or cannot explain them at all.

The modern version of Say’s Law states that the rate of interest brings saving and investment into equilibrium, implying that saving, whatever its amount, tends to get invested. In this view, the financial sector constitutes an extremely efficient market to direct saving to the most profitable investment projects. Share prices established at the stock exchange indicate growth possibilities to enterprises and, simultaneously, provide them with the financial means to realise this growth. Saving thus governs investment and the rationality of individuals coincides with the rationality of the system. Hence utility and profit maximising behaviour of all individuals results in a general equilibrium which is also a social optimum. Prices summarise all the relevant information and lead the economic actors from disequilibrium to equilibrium. Or, in the case of rational expectations, economies are always in equilibrium and prices indicate equilibrium positions, around which estimated and realised prices and earnings are normally distributed; according to this theory, prices changes would reflect shifts in equilibrium positions; such shifts are supposed to be caused by external factors, which, if considerable in size, become external shocks.

Since saving tends, in principle, to be invested, each financial asset represents a real equivalent. Hence to save during one’s active life to get an old age pension, means concretely accumulating financial assets (shares, bonds), which are available at the moment of retirement. These financial assets have a real counterpart given by productive capacities, which will produce the goods demanded by the rentiers. The revenue of the rentiers is given, in part, by the profits generated by the investments, and by the gradual sale of the accumulated financial assets. The revenues of the rentiers generate demand for consumption goods. The production of investment goods will decline and more consumption goods will be produced. This is how the neoclassical funding method works in principle.

Or, the steadily rising prices in the real estate market, reflect an increased demand for houses and flats; in this way upward shifting equilibria come into being. Mortgages bundled in new financial assets are considered secure precisely because they are backed up by real assets, houses and flats to wit, the prices of which have been correctly assessed by the corresponding markets.

Hence, in the neoclassical vision, the financial sector essentially shifts savings to investors whose activities are infallibly guided by market equilibrium prices. In the long run, investment cannot exceed saving, since, with full employment, saving governs investment. In fact, saving releases the resources
required to produce investment goods at the full employment level. Moreover, the rate of interest equalises saving and investment at full employment imposing thus Say’s Law in a neoclassical exchange economy.

In this perspective, bank credits appear, in the neoclassical view, as a perturbing element. In fact, if investment exceeds saving because some part of investment has been financed by credits, the crisis is inevitable because the resources released by saving will not be sufficient to realise all the investment projects undertaken. Given this, some neoclassical economists are conscious of the importance of money and credit. Alfred Marshall, for example, elaborated a monetary theory of exchange (Bortis 2003a). Here, strong expansions or contractions of the credit volume may be a perturbing factor and initiate cyclical movements of the economy as has been pictured by Marshall’s pupil, Maynard Keynes, in his Treatise on Money (1930). In this vein, Austrian economists, Hayek for example, think that crises occur on account of insufficient savings. Current investment projects, financed by excessive credit creation, cannot be terminated, because not enough real resources, labour and real capital, have been released through saving. This would be valid, however, in a full employment situation only, which Hayek assumes. Given this, he proposed in the 1930s that the banks should hold 100% of the saving deposits as reserves. Consequently, only savings could be lent and invested.

2. Classical-Keynesian political economy: the paradox of thrift in a monetary production economy

In Keynesian, post-Keynesian and classical-Keynesian theory, the close link between saving and investment is cut. Even more, there are contradictions, with damaging consequences for output and employment. In his obituary on Keynes, Schumpeter makes this point very strongly: „[the Keynesian doctrine] can easily be made to say both that ‘who tries to save destroys real capital’ and that, via saving, ‘the unequal distribution of income is the ultimate cause of unemployment’. This is what the Keynesian revolution amounts to” (Schumpeter 1946, p. 517). Indeed, in a monetary production economy pictured by [M-C … P … C’-M’], money and finance (M) buy means of production (C) to set the social process of production P into motion - P stands for a Leontief-Sraffa interindustry production model. In the social process of production, the – fundamental – prices of production are determined through the conditions of production and distribution, which emerges as a complex institutional problem, and the social product emerges from this process. The level of economic activity (C’ = Q) is governed by effective demand (M’). In principle, saving adjusts to investment through variations in quantities, that is, the social product (Q), which is equal to national income (Y), and the level of employment (N). This implies that the macroeconomic equilibrium condition, saving equals investment, is of fundamental importance:

\[ I = S = s \ Q = s \ Y \] (1)
Hence an increase in the saving/income ratio (s) will, as a rule, reduce economic activity, that is output (Q) and employment (N). This might be followed by a subsequent reduction in the volume of investment (I). A higher (s) may thus lead on to a cumulative downward spiral, implying a reduced accumulation of capital. Schumpeter was right: more saving may, in a Keynesian perspective, indeed destroy real capital.

In this context we may mention that saving, above all through shaping the relationship between employment and distribution, is crucially important to analyse appropriately the relations between the real and the financial sector. Indeed, a more unequal distribution of incomes will lead to a higher saving-income ratio (s), which, on account of relation (1) will reduce output and employment, and investment. The reduction of (I) will, in turn, have negative repercussions on (Q) and (N). All this directly contradicts neoclassical theory, according to which saving, steered by the rate of interest, is always invested in such a way that full employment obtains. Keynes thus knocks out the modern, neoclassical, market version of Say’s Law.

Given this, Keynesian, and post-cum-classical-Keynesian, political economy conceive of the financial sector in a double way (we concentrate here on classical-Keynesian political economy, which implies both Keynesian and post-Keynesian economics). On the one hand, money and finance, the banking system and financial markets, are considered fundamentally important in a monetary production economy, which simply could not function without a financial sector. On the other hand, the financial system may render our economies fragile and unstable. Keynes alludes to this issue in chapter 12 of his General Theory, and numerous post-Keynesians, Hyman Minsky in particular, have taken up his ideas. Keynes’s biographer, Robert Skidelsky, summarises thus Keynes’s worries: „Depressions arise, Keynes wrote in his Treatise on Money [1930], when money is shifted from the ‘industrial circulation’ into the ‘financial circulation’. This emphasis Keynes placed on the function of money as a store of wealth, as an escape from commitment, was one of his original contributions to economics» (Skidelsky 1992, p. xxiv). Hence it is the excessive accumulation of monetary wealth, which causes problems for the real economy. In fact, some monetary wealth is required because individuals, households, enterprises, non-profit associations and states all need liquidities to face a risky present and an uncertain future, and require incomes from investments in the financial sector to finance part of their activities.

All these Keynesian results also hold in a long-period perspective as is pictured by classical-Keynesian political economy set forth in (Bortis 1997/2006 and 2003b). Here prices and quantities are all governed by institutional-technological factors and form, as such, a system-equilibrium governing the secular trend. Specifically, in the classical-Keynesian system, output and employment decline if distribution becomes more unequal; moreover, in the long term, the volume of trend or normal investment represents derived demand, depending on the evolution of output and employment. This is
crucially important for the present analysis since the long-period volume of investment is *limited* by long-period effective demand. However, with long-term (Kondratiev) cycles and medium-term (Juglar) cycles, located, in a Schumpeterian vein, around the Kondratiev cycles, it is profits (distribution) which adjusts to investment, and vice versa. As will be seen below, this interaction between investment and profits is a source of instability, which may be reinforced by the financial sector, that is, through the credit volume granted by the banking system.

3. Which theory to select?

Neoclassical theory does not seem adequate to explain the functioning of the real sector and the role of the financial sector within a monetary production economy and, consequently the interaction with the real sector in a modern economy; nor can neoclassical theory come to grips with financial crises. The reasons are theoretical and empirical-historical.

The theoretical reasons are associated with the interrelatedness of markets and with the nature of the process of production. In interrelated markets in disequilibrium there may be no tendency towards equilibrium, since the tendency towards equilibrium in one market may deepen the disequilibrium on other markets. For example, when there is unemployment and money wages fall, the demand for consumption goods, and, subsequently, for investment goods may decline, increasing thus the amount of unemployment; or, increasing volumes of investment do not reduce, but raise rates of profit (Kalecki); this brings about an unstable interaction between investment and profits. Moreover, with production being a social process, no regular, well-behaved associations between 'rates of interest' and 'quantities of capital', in general between factor prices and factor quantities, exist in principle; this is the main result of the capital-theoretic discussion (Harcourt 1972). This result implies that the concept of factor markets stands on very shaky foundations; and there is, as is very likely, no tendency at all towards a full employment of resources in a monetary production economy, above all of labour, although such a tendency might exist at times.

The capital-theoretic discussion culminated, in the mid-sixties. Samuelson sums up the discussion in a crucial statement: “Lower interest rates may bring lower steady-state consumption and lower capital–output ratios, and the transition to such lower interest rate can involve denial of diminishing returns and entail reverse capital deepening in which current consumption is augmented rather than sacrificed. There often turns out to be no unambiguous way of characterizing different processes as more ‘capital intensive’, more ‘mechanized’, more ‘roundabout’ […] If all this causes headaches for those nostalgic for the old time parables of neoclassical writing, we must remind ourselves that scholars are not born to live an easy existence. We must respect, and appraise, the facts of life” (Samuelson 1966, p. 250).

However, the post-Keynesians and neo-Ricardians could *not benefit from this total theoretical victory because they could not offer a coherent and complete alternative system of economic theory*. The
neoclassical economists admitted that there are serious problems with their neoclassical-Walrasian system; for example, money and finance could be disturbing factors, resulting in bubbles in the financial sector and in crisis situations in the real sector. But, until recently, the post-Keynesian and neo-Ricardian critics had no convincing answer to the neoclassical question: What comprehensive and coherent theoretical system you have to offer? However, an alternative to liberal neoclassical-Walrasian economic theory is emerging at present in the form of social liberal classical-Keynesian political economy (Bortis 1997/2006, 2003a, 2003b, 2011).

The historical reasons for abandoning neoclassical theory are, of course, given by the very heavy crises in the last quarter of the 19th century and in the 1930s, and by the present, 2008, crisis. During the crisis of the thirties the faith in the self-regulation of market economies was very seriously shaken, even among many liberal social scientists. This is largely also the case in the present, 2008, crisis. Moreover, there is the overall socio-economic situation worldwide. According to eminent international organisations one third of the world working population is (involuntarily) underemployed or unemployed; moreover, two thirds of the world population, around four and a half billion people live in misery, with less than two dollars per person and per day. Since misery is system-caused this immense mass of people is literally crushed by the fate, and there is no hope for them unless there are fundamental reforms transforming neo-liberal Capitalism into Keynes’s Social Liberalism (Bortis 2009).

Given these weaknesses of neoclassical theory, it is attempted here to tackle the interaction of the real and the financial sector on the basis of classical-Keynesian political economy. Only principles will be considered. Empirical facts are used to illustrate the principles.

4. The real and the financial sector in classical-Keynesian political economy

In a monetary production economy money is intimately linked to the labour force as well as to the primary, intermediate and final commodities circulating in the real sector (Bortis 2003b). Indeed, in the process of real circulation (M-C ... P ... C’-M’), there is always an exchange of money (M) and commodities, that is, labour (force) and means of production (C) and final goods (C’), never exchange of commodities against commodities, with money as an intermediary (C - M - C’). Labour and means of production are bought and, subsequently, pass through the social process of production (P). Here, new values are generated which are represented by C’, that is, gross domestic product Q. Hence new values are created in the real sector of an economy, Keynes’s industrial circulation in his Treatise on Money (volume I, chapter 15). In the processes of circulation taking place within the real sector, money represents values, since it has no intrinsic value. However, once money leaves the real sector for the financial sector – Keynes’s financial circulation in his Treatise on Money – there is no longer any real equivalent and this money does, consequently, not represent any real values. Given this,
money circulating in the financial sector always looks for already existing goods; some of these goods are reproducible (houses, industrial equipment, or enterprises, to give instances), others are not reproducible (for example, land or old masters); money circulating in the financial sector may also look for already existing financial titles, for example, already existing state bonds and shares which ought to represent the value of already existing enterprises.

A famous quotation taken from chapter 12 of the General Theory illustrates some problems associated to the financial sector: „the term speculation [stands] for the activity of forecasting the psychology of the market, and the term enterprise for the activity of forecasting the prospective yield of an asset over the whole life […]“. Even outside the field of finance, Americans are apt to be unduly interested in discovering what average opinion believes average opinion to be; and this national weakness finds its nemesis in the stock market. […] It is rare, one is told, for an American to invest, as many Englishmen still do, ‘for income’ […] when he purchases an investment, the American is attaching his hopes, not so much to its prospective yield, as to a favourable change in the conventional basis of valuation; he is, in the above sense, a speculator. Speculators may do no harm as bubbles on a steady stream of enterprise. But the position is serious when enterprise becomes the bubble on a whirl-pool of speculation. When the capital development of a country becomes a by-product of the activities of a casino, the job is likely to be ill-done“ (Keynes 1973/1936, pp. 158/59).

Keynes thus distinguishes between speculation and investment. Before making use of these two notions, the terrain must be prepared to broadly sketch the interaction between the real and the financial sector of a monetary production economy on the basis of the principles of classical-Keynesian political economy, which is to be dealt with in the next section.

Within the global financial system – global because of the worldwide mobility of financial capital – there is the quantity of money (M), made up of high-powered basic money (coins and banknotes), cash deposits and saving and term deposits. The fraction r of M, made up of basic money (M₀) and of cash deposits, circulates in the real sector; in fact, (rM) equals (M₁). Obviously, (rM) represents „the amount of cash held to satisfy the transactions- and precautionary motives“ (Keynes 1973/1936, p. 199).

A complementary fraction of (M), (f = 1-r) to wit, circulates in the financial sector to buy commodities and financial assets with the aim of selling these with a profit or of deriving an income. Keynes denoted this quantity of money (fM) „the amount of money held to satisfy the speculation motive“(p. 199). However, speculation is only one aspect of the quantity of money (fM); in fact, (fM) also represents the monetary wealth resulting from past savings and, as such, also denotes hoarding. In any case, (fM) broadly equals (M₃ – M₁). It should be evident that monetary wealth may be used to exert economic, social or political power.
Now, the flows of saving and investment will leave the stocks of money, \( (fM) \) and \( (rM) \), unchanged, simply because, in the real sector saving is, \textit{in principle}, always equal to investment \( (S = I) \). Indeed, saving \( (S) \) leaves the real sector in the form of non-consumed income and moves to the financial sector to appear as saving and time deposits there. On the other hand, financial means made up of bank credits \( (B) \), reinvested savings by firms in the form of retained profits and \textit{new} shares subscribed by households \( (bS, \text{with } b<1) \), leave the financial sector to ensure the monetary financing of investment \( (I) \). Given this, the quantity of money in the real sector is \( (rM + (I - S) = rM) \); and in the financial sector \( (fM + (S - I) = fM) \).

Hence, in a first step, saving and investment leave the quantity of money in the financial and in the real sector unchanged, because, in the real sector, saving adjusts to investment through quantity adjustments (relation (1) below. The quantity of money \( (fM) \) remains in the financial sector when wealth holders diversify their monetary wealth through buying \textit{already existing} commodities (real estate, land, precious metals and the like), and \textit{old’}, that is, \textit{already existing} financial assets (shares, bonds, and so on).

Now, the clue to understanding the interaction between the real and the financial sector – to be dealt with in the next chapter - is to examine the macroeconomic significance of saving in a monetary theory of production. Here the distinction between saving and finance is crucial. Banks, that is, the banking system, provide finance. This is the \textit{monetary} financing of investment \( (I) \) through bank credits and acquiring \textit{new} shares or bonds by the banks \( (B) \) and through financial means of the enterprises themselves, for example reinvested profits; part of current or past saving may also participate in the financing of current investment, for example through subscribing \textit{new} shares or loans by households. However, when considering principles, all financial means \textit{must} ultimately equal current saving \( (S) \) since \( (S = I) \) must always hold, and, ideally, \( (S) \) should represent the \textit{monetary} and the \textit{real} financing of investment.

It is very important to note that, in the classical-Keynesian vision, \textit{investment is, in principle, determined by the evolution of effective demand and is, as such, derived demand}. Indeed, in the (secular) long run, \textit{trend} investment depends upon long-period trend effective demand, governed by the entire institutional-technical system and exhibited by the supermultiplier relation (Bortis 1997/2006, pp. 142-54). This emerges from relation \( I = (g + d)vQ \) (Bortis 1997/2006, p. 144, relation (5)), where \( v \) is the normal capital-output ratio \( K/Q \), \( Q \) is trend output, \( d \) represents the drop-out ratio of fixed capital and \( g \) is the trend rate of growth, governed by the evolution of the autonomous variables government expenditures and exports. However, the realised investment volume always deviates from its trend volume. In the short run, investment is, in a Keynesian vein, governed by long-period expectations, in the medium term, where Juglar type cyclical movements take place, by the post-Keynesian investment-profits relationship (Bortis 1997/2006, pp. 204-20); this is also true of long-period Kondratiev cycles.
Let us denote the fraction of current or new saving used by firms and households to finance current or new investment by \((bS)\). Hence the equation for the monetary financing of investment is:

\[ B + bS = I \quad (2). \]

In the Keynesian, post- and classical-Keynesian vision, finance precedes investment. Since we are dealing with principles we may nevertheless relate finance to current saving. Principles are reconstructions of constitutive or essential elements of reality and time-lags do not play any role here; this holds for all relations put to use in this paper.

The equation for the real financing of investment has already been mentioned above:

\[ I = S = s Q \quad (1). \]

Saving makes available the resources (labour, capital equipment and land) required to produce investment goods. And, crucially, with the real financing of investment through saving, investment precedes saving, which, in turn, adjusts to investment \((I)\) through changes in output \((Q)\) and employment \((N)\) and distribution. Thus, the whole sequence of monetary and real financing of investment is given by

\[ B + bS = I = S = s Q \quad (3) \]

This relation already shows that in a monetary production economy investment stands at the centre of events. The left-hand side pictures how, in principle, the monetary financing of investment goes on, the right hand side how the real financing goes on. It must be noted that, in relation \((3)\), saving \((S)\) on the right-hand side of investment has not the same meaning as \((S)\) on the left-hand side. Saving on the right of \((I)\) is non-consumed income that makes available real resources, present and past labour, for producing investment goods. Saving on the left of \((I)\) are saving or term deposits, which represent the basis for granting long-term credits by banks to finance part of investment \((B)\) and are the source for financing part of investment by own financial means, that is, by retained profits and subscription of new shares, for instance. In fact, non-consumed income is almost immediately transformed in to saving or term deposits.

Given this, the amount of credits granted \((B)\) also depends on saving \((S)\), or must be related to \((S)\). Indeed, banks may provide credits on the basis of excess reserves represented by the saving net of the amount used to finance investment \((bS)\) by firms and households. In fact, the net saving of households and enterprises \(- (1-b)S\) - appears on the debit (liabilities) side of bank accounts and as excess reserves on the credit (assets) side. Now, taking account of relation \((3)\), the banks must hold a fraction \((r)\) of the new credits granted \((B = I - b S)\) as reserves for practical or legal reasons; as a rule \((r)\) is rather small \((0.1, 0.05, \text{or, in practice even less})\). Since in the real sector saving \((S)\) must equal investment \((I)\), the amount of credits granted by the banking system is, on account of equation \((3)\), \(B = (1-b) S\); the reserves to be held are \(r B = r (1-b)S\); the credit and money multiplier relation is \([B = (1/r) r (1-b) S]\). Hence the amount of money created through bank activities is
\[ \Delta M = B (1-r) = (1-b) S (1-r) \quad (4). \]

This relation exhibits the principle of money creation by the global banking system, which is always valid. There would be no point in introducing time-lags to argue, for example, that some credits have been granted on the basis of surplus reserves related to past saving. These would simply drive out surplus reserves associated to current saving by the same amount. Hence it is essential to relate flows of saving and investment, that is, new saving, that is, saving as deposits providing the basis for new financial means, and new investment, made possible through real saving having released the resources, present and past labour, to produce the new investment goods. National banking systems and individual banks may borrow on the international capital market to obtain excess reserves if this is required; or individual banks may borrow on the national capital market. This leads on to interbank lending.

We may note here that the amount of money newly created (\(\Delta M\)) would be zero if reserve requirements were 100\% (\(r=1\)) as Hayek required in the 1930s to prevent money creation through new credits. Only savings could in this case be invested and (\(S=I\)) would hold not only on the real side (\(I = S = s Q\)), but also on the financial side (\(B + bS = [(1-b) S + bS] = S = I\)).

At this stage we may mention that money creation also takes place if banks buy government bonds to partly finance government deficits. We could denote by (\(\Delta MG\)) the amount of money created to finance in part a state deficit through banks. This amount of money flows, in the first place, into the real sector where it contributes to create goods and incomes. Subsequently, part of the saving out of these incomes is squeezed out of the real sector and flows into the financial sector according to the mechanism outlined above (relation 4 above and relation 5 below). The interest on government bonds bought represents an important source of revenue and profits for the banks. Probably, very large parts of these revenues are flowing into the financial sector to be invested in already existing real and financial assets and are, consequently, not transferred to the real sector in the form of financial means to finance new investment goods which are being financed by new bank credits. This mechanism may get dangerous if the indebtedness of specific states becomes so important that bankruptcy threatens. Obviously, if some state goes bankrupt the existence of specific banks, having bought large quantities of government bonds among their assets, may be threatened, too. Important repercussions on parts of the banking system may be the consequence. In any case, the ultimate consequence of financing parts of government deficits through bank credits amounting to (\(\Delta MG\)) is a corresponding increase the quantity of money (\(\Delta M\); part of which (\(r\Delta M\)) will remain in the real sector and a fraction (\(f\Delta M\)) will flow into the financial sector.

Hence financing parts of government deficits through bank credits is just another way to create endogenous money. Moreover, if the Central Bank buys new state bonds exogenous money creation takes place. The newly created amount of money, \(\Delta MC = \Delta M\), say, will in first stage flow into the real
sector; subsequently, part of the newly created, \( r\Delta M \) to wit, will remain in the real sector and \( (f\Delta M) \) will leave the real sector for the financial sector. However, if the Central Bank buys existing state bonds, in the course of a monetary easing operation for example, the additional exogenously created money \( (\Delta MC = \Delta M) \) will directly flow into the financial sector. Given this, budget deficits are, as one would expect, at the origin of monetary expansion through the banking system comprising banks and Central Banks. It is very likely that the larger part of the newly created money will end up in the financial sector.

Finally, consumption credits also lead on to endogeneous money creation: more consumption goods or services are demanded, effective demand thus increases, reflecting a rise in autonomous consumption demand; the production of consumption goods increases; in the process of production incomes are created, leading on to further consumption demand and income creation; a cumulative - multiplier - process of production and income creation comes into being, resulting in a rise of cash and saving deposits. Part of the saving is shifted into the financial sector through the mechanism pictured above. Repayment of credits results in a change of the asset side of the balance sheets of banks: the entry credits granted decreases and the entry cash increases correspondingly, implying that, in the financial sector, money created through consumer credits increases the quantity of money forever. In the real sector, however, credit expansion sets a multiplier process into motion, credit repayment, however, leads on to a cumulative process of contraction of production and incomes.

All in all, and if the world level is considered, the capacity of banks and central banks to create money simply seems immense.

The Basel agreements (Basel I 1988 and Basel II 2007, and now Basel III, 2010) have replaced reserve requirements by prescriptions on own capital to be held as a percentage of assets. This implies that, in principle, there is no upper limit to the credit volume the banking system can provide. However, according to classical-Keynesian theory, the volume of new investment is strictly limited in the long run through long-period effective demand as emerges from the supermultiplier relation (Bortis 1997, chapter 4, and 2003b, pp. 460-67). However, it is likely that, in order to maximise profits, banks will attempt to finance as much of the new investments as possible with credits \( (B) \) at the expense of directly reinvested savings. This type of bank behaviour will be reinforced in the absence of reserve requirements and higher own capital – assets ratios. In equation (4) above, a higher volume of \( (B) \) implies a reduction of the coefficient \( (b) \), the fraction of savings directly used to finance new investments by firms and households; endogenous money creation \( (\Delta M) \) increases. Moreover, bank credits are likely to render the cyclical movement more pronounced. In the cyclical upswing where the post-Keynesian profit-investment mechanism drives up profits and prices, banks will grant credits very easily, even to firms and individuals who are hardly creditworthy in the long run. In the downswing, however, the credit volume, including interbank lending, may shrink dramatically
because of pessimistic profit expectations and mistrust between banks. Again, the absence of reserve requirements and higher own capital – assets ratios is likely to reinforce the impact of bank credits on cyclical fluctuations.

At this stage, a remark on the nature of money is to be made. In the form of finance, money is *endogenous* since it may easily adjust to whatever part of the investment volume the banks are ready to finance. However, in the course of the *process of production*, where goods are produced and incomes are created, finance (credits) is transformed into *money proper* and becomes in a way *exogenous* and, as such, *given*. This also holds if credits are repaid. In this case, a change in the composition of the asset side of a bank would occur: the item ‘credits granted’ would be reduced and the entry ‘cash’ would correspondingly increase. As such the quantity of money (M) is given and can, therefore, not be destroyed.

In a Keynesian vein, it will be suggested below, that money may circulate in two distinct spheres, in the real sector; here, Keynes’s *industrial circulation* takes place, and in the financial sector, where Keynes’s *financial circulation* occurs (on both types of circulation, see Keynes 1930, vol. I, chapter 15). It may already be noted that money, if circulating in the real sector, represents values, and, as such, expresses values in money form. Hence, in the real sector, money has *always* a value equivalent, in the form of goods and services. However, once money leaves the real sector to enter the financial sector, money becomes a store of value *without* real value equivalent.

The newly created amount of money ($\Delta M$ in relation (4) above) implies that only a fraction of saving is required to finance investment, since

$$(\Delta M + (S - \Delta M) = I).$$

At we have already suggested, it is very important to note that, in the classical-Keynesian vision, investment is always determined from outside; in the short run, it is, in a Keynesian vein, governed by long-period expectations, in the medium term, where Juglar type cyclical movements take place, by the post-Keynesian investment-profits relationship (Bortis 1997/2006, pp. 204-20); this is also true of long-period Kondratiev cycles. In the (secular) long run, trend investment depends upon long-period trend effective demand, governed by the entire institutional-technical system and exhibited by the supermultiplier relation (Bortis 1997/2006, pp. 142-54).

Since in the real sector of an economy saving must always equal investment, saving amounting to ($\Delta M$) flows into the financial sector; this is immediately evident from definition (5). As a consequence, the ratio ($fM/rM = \ell/r$) continuously grows. The evolution of the quantities ($rM$) and ($fM$) is indeed significant. In 2005 it has been estimated that in the last thirty years, that is from 1975 onwards, the quantity of money in the real sector ($rM$) has been multiplied by *four*, and the quantity of money in the financial sector by *forty*! To be sure, the total quantity of money has grown, too, but the main reason for this development is the increase of the relation ($\ell/r$). It is very likely that, in the
meantime, (M) and (f/r) have increased still more, also because of the massive interventions of the Central Banks to save 'too-big-to-fail' banks. If such interventions are financed by the taxpayer, 'good' money, originating from the real sector, where it was a representative of value, has been turned into 'bad' money representing no values at all. In other words, this money has simply been frittered away.

In the above endogenous money creation by the banking system in association to high volumes of saving has been briefly sketched. However, as we have already suggested, money may also be created exogenously by the Central Bank to finance parts of budget deficits or to save large banks. Both endogenous and exogenous money creation concur to explaining the enormous rise of the quantity of money in the financial sector (fM) in the last thirty years or so.

A last point must be considered. An individual may choose the composition of his assets: money, financial assets and real estate, for example. However, considering the national or global economy as a whole, the stocks of money, of financial titles and of real capital, and land, are given in the short run, and, with the exception of land, may evolve at different rates in the long run. Hence, the amount of money (M = rM + fM) is always given in the short run, even after very numerous transactions between individuals in the real and in the financial sector. Indeed, "[all] money which is anywhere, must be somewhere" (Robertson 1963, p. 350). This also holds in the course of cyclical movements in output, employment, investment and, consequently, real capital, and, finally, in the long run, where (fM) may be continuously growing. Consequently, as Keynes has insisted upon time and again, individuals may be more or less liquid, which is not true for the economy as a whole.

The fact that "money is always somewhere" implies that speculation is a zero-sum game. A gain on one side means a loss on the other. However, "asymmetric information" (Joseph Stiglitz) may quite evidently lead on to huge concentrations of monetary wealth: as a rule, there are very few big winners and many small loosers. Here probable knowledge in Keynes’s sense, with the degrees of probability being very unequal for the transaction partners, evidently plays an important role. Moreover, fraudulent activities, pyramid schemes for example, may lead on to massive shifts of monetary wealth from naïve and credulous owners of monetary wealth to swindlers, who, in some way, appear as predators.

The fact that "money is always somewhere" has a very important consequence for the number of transactions occurring in the financial sector. These transactions are related to the turnover of the ever-increasing stock of money circulating in the financial sector (fM), that is, the velocity of circulation of (fM). As a rule, when a speculative bubble is in the making, or when a lot of money can be made through aggressive investment in a cyclical upswing with prices and profits rising, speculators and aggressive investors get excited, as was certainly the case in the 'subprime upswing'. The number of transactions and the velocity of circulation of (fM) both increase, may be even dramatically (in fact,
around 97 percent of all transactions take place in the financial sector). The bubbles in the stock market and elsewhere go on developing, and prices and profits will continue to rise as long as there is a cyclical upswing in the real economy. In principle, this could continue indefinitely. However, bubbles will burst and prices and profits will stagnate and eventually decline once the cyclical upswing slows down and turns into a recession, initiating thus the downswing. This is already a matter of the interaction between the real and the financial sector to which we now turn.

5. Interactions between real and financial sector in a classical-Keynesian perspective

Let us start with the financial sector, in which there are, in Keynes’s view, two principal activities, first, speculation, and, subsequently, enterprise or investment. Both activities are based upon (fM). In the case of speculation, part of this quantity of money is used to buy already existing real and financial assets (shares, land and real estate, precious metals, raw materials and energy products) in view of selling these at a higher price. The prices and their evolution are governed by the relative strength of bulls and bears, those speculating à la hausse and those speculating à la baisse. Part of the buying operations may be financed by bank credits, implying a temporary creation of money. This money creation is temporary because the repayment of credit is equivalent to a destruction of money. If, at the end of a speculative bubble or in the course of a cyclical downswing, share prices decline generally, many debtors may not be in a position to repay credits. If this happens at a large scale, a bank crisis may ensue, touching the financial sector only, and leaving the real sector in principle unaffected. It is quite evident that speculation may completely detach current share values from their real values as is governed by the profitability of enterprises. As already alluded to, this is Keynes’s casino capitalism. This kind of capitalism may have serious negative effects on the real economy if there is an interaction between speculation and new (real) investment; indeed, the volume of new investments may be reduced if speculation leads on to unjustified declines in share prices: to finance new investment project will become more difficult and long-term expectations may be negatively affected. Or, as has been suggested already, asymmetric knowledge, in some cases accompanied by fraudulent practicises, may lead on to huge concentrations of monetary wealth. As a consequence, take-overs may increase, as do profits. Distribution gets more unequal and, in a classical-Keynesian spirit, involuntary unemployment will increase.

In relation with the behaviour of financial agents in the 1929 and in the present, 2008, crisis, the German economist Wilhelm Hankel very justly remarks that the 1929 crisis occured because of the speculative activitities of the customers of the banks. However, Hankel goes on to say, the present, 2008/09, crisis came into being because of the enormous speculative activitity of the banks themselves (and, one should add, hedge funds). In fact, the banks have lent each other their excess reserves to engage in these very extensive speculative activities; moreover, hedge funds may eventually realize
huge profits through leverage effects obtained by a low ratio of own means to external means, comprising bank credits and bonds.

As to investment, two types may be distinguished, that is, investments in the financial sphere involving investments in already existing assets, and investments in the real sector, resulting in the production of new goods, mainly industrial equipment. Let us first consider investments in the financial sector, which are also of two kinds, that is, normal or placement financial investment and aggressive financial investment. In the case of normal financial investment, the financial sector is subordinated and ancillary to the real sector; concretely, share-holders would accept the dividends proposed by the management and would not attempt to influence short- and long term policies of enterprises if management pursues an ordinary and normal strategy aimed at securing competitiveness and improving the market position of firms. The attempt of the management to satisfy the owners of the enterprises may lead on to an improvement of the management of firms. However, with aggressive financial investments the financial sector dominates the real sector; it may even happen that enterprises are damaged or even destroyed. In fact, speculation may result in unjustified rises of share prices. Now, to render sufficiently profitable an eventual investment, unfriendly take-overs may result in restructurations of these enterprises to render them even more profitable. Such restructurations result, as a rule, in dismissals aiming at lowering costs. The destruction of enterprises through „asset stripping“ is also due to aggressive investment linked with speculation.

Aggressive investments as a rule result in a more unequal income distribution. Speculation may result in high asset prices. This, in turn, requires large profits to render an investment profitable. If the object of investment is an enterprise in the production or service sector, high profits imply a pressure on wages. Rising inequalities in income distribution reduce the purchasing power of the population, effective demand declines and ultimately leads on to system caused involuntary unemployment, with all the social and psychological problems associated to this (Bortis 1997/2006, chapter 4).

At this stage, we may retain that a financialisation of the economy takes place if financial capital is massively invested in already existing assets and results in extracting surplus (profits) on an abnormally high level from the real sector. Now, the point is that a large proportion of these profits will move back to the financial sector and increase the volume of profit-seeking financial capital, implying that the financial sector is continuously fed and, as a consequence, steadily grows. In this way the real sector becomes ancillary to the financial sector, which is an abnormal, one could even say, an alienated situation. Indeed, in normal circumstances, the financial sector should be in the service of the real sector through providing credits for socially useful investment. Needless to say that with the domination of the financial sector, resulting, for example, in unfriendly take-overs, asset-stripping, high Profits goals for real sector enterprises, we are a far cry from this desirable situation.
It is remarkable that the French philosopher Jacques Maritain has, in the 1930s already, pictured this rather perverse relationship between financial and real sector: In theory, Maritain says, one may easily conceive of an association between money (and finance) and productive labour, with money feeding, in a way, the various enterprises, contributing thus to increase a country’s wealth. In reality, however, this scheme operates in an entirely different, even pernicious, way. In fact, money becomes a living organism nourished by the real economy. Profits are no longer the normal result of enterprise nourished by money, but the fruit of money fed by productive enterprise. This reversal of values most importantly implies that the claims to dividends become primary at the expense of the claims to salary. In this way, the real economy becomes ancillary to the power of money, which thus gets primacy over goods useful to man (see on this Maritain, quoted in Dembinski 2008, pp. 178-79).

Let us note, however, that, in a first step, only part of the financial system does not stand in the direct service of the real sector; services provided to the real sector by the financial sector might comprise commercial banking and granting credits to small and medium-sized enterprises, or traditional wealth management in the service of individuals and institutions, non-profit organisations, for example; moreover, some hedging is also required due to the permanent presence of more or less uncertainty about the evolution of prices, including of course exchange rates. All these services of the financial sector in favour of the real sector are indeed normal and socially necessary.

As a rule, the individuals and institutions active in the financial sector in excess of the normal and socially necessary activities participate more or less intensely in exorbitantly draining the real sector of surplus, mostly without being conscious of it. The actors in the financial sector eventually think that they are acting responsibly in contributing to the best possible allocation of resources. Among these actors banks obviously play a pivotal role, since all transactions are carried out by banks, either for their customers, including hedge funds, or for the banks themselves. Since the banks and some big customers command the whole of the liabilities of banks, the entire quantity of money (fM) circulating in the financial sphere of an economy may, in principle, be put to use for excessive surplus extraction. This means that, through some large banks and hedge funds, the entire financial system may participate in excessively shifting money from the real sector to the financial sector.

In theory, the actors in the financial sector presumably simply think along the dominating neoclassical mainstream view: they are convinced of permanently allocating resources in an efficient way. In practice, most small and medium actors simply follow the general trend set by the big players regarding the composition of their portfolio. However, the trendsetters, that is, some large actors on the financial markets presumably know fairly well what they are doing. These big actors possibly also knew that they were too big to fail.

Why do these problems with the financial sector arise, given the fact that the activities of this are in itself good in the social ethical sense? It is, in fact, normal that there should be markets for financial
assets (bonds and shares), raw materials and energy resources, for old masters\(^3\), and so on; and wealth management would be an important financial sector activity. But these markets should ultimately enhance the proper functioning of the real sector. For example, if a non-profit organisation wants to finance some project it should be able to sell financial assets it possesses at a good price. This implies that there must buyers of these assets wishing to invest profitably money they do not need at the moment, that is, to hold wealth in terms of specific financial assets. On a general level this implies that the quantity of money in the financial sector, \((fM)^*\) say, should be large enough to satisfy the long-period precautionary motive of individuals and families, firms in the production and service sector, social and cultural institutions of all kinds, mostly non-profit institutions, and, in part, of the state, to hold monetary wealth and to provide for reserves and incomes to ensure the proper functioning of these institutions (on institutions, see Bortis 1997, pp. 20-27).

Given this, the problem of the financial sector can now be assessed. In the classical-Keynesian perspective, the financial sector becomes increasingly an extractor of social surplus through financialisation because it is far too large compared with the real sector. Too much money circulates in the financial sector \([fM >> (fM)^*]\), subduing thus increasingly the real sector to the financial sector. Given this, „monetary production economies“ tend to become „monetary finance economies“ through the process of financialisation, in which, as has been alluded to in the above, the banks and some big customers, including hedge funds, will tend to play a crucial role. Instead of factories, banks and hedge funds will tend to dominate an economy as is particularly visible in economically underdeveloped and transition economies. As a result, financial transactions more and more dominate the production of goods and the rendering of services. In fact, the production and service enterprises in the real sector, whether listed at the stock exchange or not, have to maximize their short-term profits in order to maximize shareholder’s values. Otherwise takeover threatens. Given this, all firms have to reduce costs, wage costs most importantly, to realize high and rising profits. Distribution gets more unequal and internal demand stagnates or declines. Exports are the only way out. This, in turn, leads to a world war between workers and employees through a downward pressure on wages, worsening working conditions and delocalisations. These processes are enhanced through the fact that real sector enterprises have to reinvest large parts of their profits in the financial sector because reduced effective demand also reduces investment opportunities in the real sector (the coefficient \(b\) in relations (2) to (4) is diminished). The final result is a continuous downward pressure on living standards worldwide,

\(^3\) However, as Sergio Rossi reminds me, it is not normal that these financial or real assets change hands several times a day, just to speculate on their price increase over the very short run. For instance, it is not normal that one buys and sells within the same day the shares of a given firm, as shareholders ought to be interested in the firms potential, rather than in obtaining a capital gain over a single transaction day.
accompanied by growing poverty and misery and an increasing number of the working poor. This process of financialisation occurs because, in some or all banks of an economy, traditional commercial banking becomes secondary and investment and private banking, complemented by the activities of the hedge funds, move to the fore. This process goes on deterministically, driven by a dramatic excess of (fM) above the socially necessary quantity of money, (fM)*, circulating in the financial sector.

This means that, to fully restore monetary production economies, the size of the financial sector has to be reduced, until socially appropriate relations between the financial sector and the real sector are established. We shall briefly deal with this issue in the policy conclusions set out below.

Let us, next, have a look at investment in the real sector, which, by definition, is new investment, resulting in increasing or maintaining the real capital stock. Indeed, if money located in the financial sector, also potential money like bank credits, is used in a spirit of enterprise, then it will find its way to the real sector, if, for example, new shares, representing financial means to produce new investment goods, are bought. In fact, it is (new) investment, which strongly links the financial sector to the real sector.

In this context, there is, first, the problem of the determination of the volume of investment in the long-period (secular) trend on the one hand, and, second, in the long and medium term cyclical movements on the other. In a classical-Keynesian perspective, investment is, in both cases, determined by effective demand. In the long run, trend investment volume is governed by gross domestic product (Q) and its growth rate; Q, in turn, is determined by two autonomous variables, government expenditures and exports, and by the supermultiplier which links the autonomous variables to the social product (Q); the supermultiplier depends on three rates: the saving and tax rate (the leakage coefficient), the import/income ratio and the investment/income ratio (Bortis 1997/2006, pp. 142-54 and Bortis 2003b, pp. 460-67). All the variables and parameters of the supermultiplier are governed by institutions and the technology incorporated in the equilibrium capital stock - the supermultiplier pictures, in fact, a stock-flow equilibrium. This implies that the volume of long-period (normal, trend) investment is governed by the institutional-technical system of a society, that is, by the material basis and by the political, social, legal and cultural superstructure. Uncertainty and expectations are related to individual investment projects only. It is uncertain, to various degrees though, which firms will survive in the long run, which firms go bankrupt in a cyclical downswing and who is employed or involuntarily unemployed in the long run (as well as in the medium and short term).

However, within the framework of long-term (Kondratiev) cycles and medium term (Juglar) cycles, there is an interaction between the behaviour of entrepreneurs and the functioning of the socio-economic system. In a post-Keynesian spirit both cycles are shaped by an interaction between

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4 Once again, I am indebted to Sergio Rossi for a concise formulation of this argument.
investment and profits; in long-term cycles, the interaction is between gross profits and gross investment; the Kondratiev upswing is, as a rule, shaped by profound technological change reflected in a large and rising depreciation ratio. In a Schumpeterian vein, medium-term cycles take place around the long term cycle, and are characterised by a mutual dependence between net investment and net profits, with technology and the depreciation coefficient given or slowly changing (Bortis 1997/2006, pp. 204-20).

In both types of the cycle, (net or gross) investment increases in the upswing; as a consequence, profits increase through price rises relatively to money wages, a reduction of stocks or a higher degree of capacity utilization; rising profits induce, in turn, more investment, and higher investment volumes lead on to larger profits, which means that cumulative processes come into being. The contrary happens in the downswing. This cumulative interaction between profits and investment represents the income effect of investment.

The capacity effect, however, exerts a downward pressure on profits at the end of the expansion phase, because high investment levels have caused productive capacities to rise considerably above the trend level of output and employment associated to a normal rate of profits set by entrepreneurs in their price calculations. Hence the large increase of productive capacities leads on to lower profits because effective demand is no longer sufficient to buy output at a high profit rate. Contrariwise, if at the end of a recession productive capacities have moved below the long-term trend, productive capacities will not be sufficient to satisfy normal (or trend) effective demand (Bortis 1997/2006, pp. 204-20). Hence the capacity effect of investment governs the turning points of the cyclical movement.

Let us now consider the interactions between the financial sector and the real sector as occur with respect to investments in the real sector, first within the framework of cyclical movements, and, second, in relation to the long-period (secular) trend.

Indeed, the links existing between the real sector of an economy and the financial sector emerge most forcefully in the course of business cycles, above all the Kondratiev cycle. In fact, the credit policy of banks may increase the amplitude of cycles. In the upswing phase of the cycle with profits augmenting, a generous credit policy tends to reinforce the interaction between investments and profits. Given this, in the cyclical upswing, higher investment volumes will be financed by banks, and, consequently, the additional capacities created will be larger than normal, precisely because of the large credit volume granted by banks; hence the turning point of the cycle will be at a larger distance from the trend governed by the institutional system and by technology. In the downswing banks will provide less credits – there may even be a credit crunch – and, consequently the level of investment will decline more sharply than it would have with normal lending policies of the banks. Productive capacities, output and employment will diminish more strongly because of the credit restrictions of the banks than would been the case with normal credit policies.
With the Kondratiev cycle, investment, output and employment increase relatively slowly and over a much longer time-period in the upswing phase than in the downswing phase which, as rule is rather short, implying large downward changes in the volume of investment, and other key variables. The sharp downswing, characterised by a complete breakdown of net investment, is pictured by Keynes for the 1929 crisis (Keynes 1936, pp. 102/03), and by Barry Eichengreen and Kevin O’Rourke (2009) for the 2008 crises in comparison with the 1929 crises; indeed, in the first twelve months there was a very considerable breakdown of the world industrial output (less 12% in 2008/09; less 10% in 1929/30), and a dramatic breakdown of world trade (less 18% in 2008/09; less 5% in 1929/30) and in world stock markets (less 52% in 2008/09; less 10% in 1929/30). In the first year, the 2008/09 recession was thus far more pronounced than in 1929/30. However, massive government intervention has stabilised the situation at present, which was not the case in 1929/30 (Eichengreen/O’Rourke 2010); huge budget deficits may, in Kondratiev downswing as is likely to be at work presently, temporarily increase effective demand, capacity utilization and profits; however, investment is unlikely to increase substantially because long-term expectations are bad and entrepreneurs and managers know that the very large budget deficits cannot be sustained. Indeed, as a consequence of the huge budget deficits that have come into being, above all in the United States, government debt has increased sharply. As a reaction to this, austerity policies have been implemented in many countries; this is likely to prolong the depression or, at least, to dampen the upswing.

The presence of excess reserves in banks and subsequent interbank lending may reinforce the amplitude of cyclical movements still more. The banks, wishing to maximise their profits, will provide ever more credits to obtain additional interest incomes. Subsequently, the creation of bank money leads to very high excess reserves, and the banks will do everything to provide credits even if the debtors are not really creditworthy. The subprime crisis is an example of such a process: too many mortgages have been provided, and, as a consequence, too many houses been built. Huge overcapacities have been created in the real estate sector. This inevitably led to a breakdown of house prices. This is likely to affect sound mortgages, because house prices may fall below the amount of the mortgage provided. Given this, the crisis is likely to deepen because of a breakdown in the construction of new houses.

Perhaps, the 2008/2009 crisis, accompanied by the subprime crisis, marks the end of the 5th Kondratiev upswing 1985-2008 and may eventually initiate the downswing of this 5th Kondratiev cycle. Indeed the upswing of the fifth Kondratiev cycle has presumably been initiated by the dramatic extension of the financial sector, also through the creation of pension funds (old age pensions on a capital cover basis). In the 1990s new technologies in the communication sector (internet, mobile phone) and in informatics (personal computer) lead to the New Technology phase in the 5th Kondratiev upswing. The housing boom and rising prices for land and real estate represented the third
phase of this Kondratiev upswing. The present crisis gives rise to interpretation problems as emerges from Eichengreen/O’Rourke (2010). Indeed, the sharp recession in the first 12 months of the 2008/09 crisis, would suggest that we have entered the downswing of the 5th Kondratiev cycle. However, the stabilisation brought about subsequently through the huge government deficits all over the world, specifically in the US, has stabilised the major economies as is emphasised by Eichengreen/O’Rourke. In our view, the stabilisation may eventually not be lasting. Two main reasons account for this. First, the huge budget deficits cannot be sustained, since public debt would explode if the deficits were maintained. This means that the effect of the deficits will be limited in time, too. Moreover, as suggested before, austerity policies are now implemented to maintain the public debt manageable.

Second, the main effect of the deficit will be an improvement of capacity utilisation, hence of output and profits, eventually enhanced by slight price rises. However, will the additional profits also lead on to higher levels of investment? This is more than doubtful because entrepreneurs and managers will eventually not expect the slight improvement of the economic situation to be permanent. Profits and saving in general may flow to a large extent from the real to the financial sector with negative repercussions on distribution, output and employment as will be suggested subsequently.

Indeed, the next point is about the relations and the interactions between the real and the financial sector with the respect to trend investment taking place in the real sector. To come to grips with this point, the significance of the macroeconomic equilibrium equation (S = I) for both sectors has to be recalled. It has been suggested in the above that real-sector saving has the task of releasing the resources required to produce the investment goods demanded by entrepreneurs; these resources are direct and indirect labour, real capital (past labour), and land. Hence in the real sector, saving constitutes the real financing of investment through the inputs required to produce the investment goods. In this process, investment precedes saving, which, in a monetary production economy passively adjusts precisely to investment through variations in the quantities produced, that is variations in the social product (I = S = s Q). Hence, if saving (S) exceeds investment (I), the social product (Q) and the level of employment (N) decline, and vice versa. During the transition process distribution will also adjust accordingly; indeed, realized profits will exceed normal profits if Q and N rise, and vice versa (see on this Bortis 1997/2006, pp. 204-220)

However, the monetary financing of investment takes place in the financial sector, specifically within the banking system. Enterprises may finance part of investment through retained profits (bS), and part through new shares and bonds subscribed by banks and through bank credits (B), all of which equal [(1-b)S]; here, one has to remember that, in the long-run, investment is derived demand and is governed by effective demand (the supermultiplier) and through the behaviour of entrepreneurs in the course of the business cycle. Hence the monetary financing of investment necessarily precedes investment, which, in turn, is followed by saving. Subsequently saving, representing non-consumed
income, becomes saving deposits, which, as has been suggested above, are the basis to provide new credits and subscriptions amounting to \([B = (1-b)S]\) if the banking system is considered. Since only a part \((r)\) of the new credits must be held as reserves for legal or practical reasons, the banking system may, in principle, create additional money amounting to \([\Delta M = B(1-r) = (1-b)S(1-r)]\) (relation (4) above). Hence, as has been suggested above, only a part of saving \((S)\), that is \([r(1-b)S]\) is required to finance investment. As a consequence, the amount of new money created \((\Delta M)\) represents investible resources, which, however, are not needed to finance investment. These investible resources do not flow back into the real sector, but have to move into the financial sector to join the quantity of money \((fM)\) in this sector. In fact, part of saving is squeezed out of the real sector into the financial sector, since \([\Delta M + (S - \Delta M) = I]\) (relation 5).

From relation (4) \([\Delta M = (1-b)S(1-r)]\) emerges, as suggested in the above, that the creation of money would not be possible if the reserve \((r)\) was set equal to unity, as Hayek indeed proposed in the 1930s. Hayek’s proposition is equivalent to the so-called “full-money requirement” advanced presently. Hence the banking system may create new money in excess of saving in order to finance investment because investment, financed through bank credit, leads on to the creation of new values, which, in turn, imply the creation of new incomes. Part of these incomes are saved, new saving deposits come into being and provide the basis for new credit and money creation in excess of saving. All this holds, in principle, for the banking system. The individual bank may temporarily increase its excess reserves through interbank lending and through lending from the Central Bank.

Now, the amount of new money created \([\Delta M = (1-b)S(1-r)]\) increases for two main reasons. First, providing credits and thus (endogenously) creating money leads on to a continuous increase in the quantity of money and, therefore, an increase of cash and saving deposits. However, these deposits lead on to interest liabilities. Given this, the increase in the quantity of money \((M)\) induces the banks to lend even more to get more interest receivable. The aim is to maximise the difference between interest receivable and interest liabilities, that is, to maximise profit in this sphere of banking. Let us remember here that in the long run lending is strictly limited by trend effective demand on which investment depends. However, as has already been suggested, in the course of the business cycle additional lending may fuel the upswing and fasten the downturn through credit restrictions. This is a first vicious circle so to speak.

Second, however, the quantity of money in the financial sector \((fM)\) continuously increases as a proportion of the total quantity of money \((M)\); in fact, the parameter \((f)\) rises steadily. Indeed, the excess of financial means over investment \((\Delta M)\) flows into the financial sector. On the broad average, the volume of new investment \((I^*)\) is governed by long-period effective demand according to the supermultiplier relation (Bortis 1997/2006, chapter 4) and, as such, offers only limited possibilities to provide credits, taking account of the fact that part of trend investment is financed by retained profits
(savings). Given this, profit-seeking financial capital (fM) is looking for investment opportunities in the financial sector among already existing goods. As a consequence, share prices rise and enterprises are forced to realise higher profits to prevent takeovers, the distribution of incomes becomes more unequal, saving and the saving-ratio increase; on the other hand, the volume of trend investment declines, because, on account of diminishing effective demand due to a more unequal distribution of incomes the trend social product (Q*) has been reduced, and trend investment directly depends upon (Q*): I* = s Q* (on this see the supermultiplier relation, with explanations, in Bortis 1997/2006, chapter 4). On account of the rise in saving (S) and of the saving-ratio (s) even more money moves to the financial sector, and leads on to a more unequal distribution of incomes. This, in turn, reduces the spending power of the population and, as the ultimate consequence, causes an increase in long-period involuntary unemployment. Presumably, this interaction between monetary wealth accumulating in the financial sector on the one hand, and income distribution and involuntary unemployment on the other has been reinforced through strongly rising saving and saving-income ratios in the formal and informal sectors of economies, but also through corruption and criminal activities. This interaction constitutes a second vicious circle.

Probably, it is these two vicious circles that have resulted in the dramatic increase of the quantity of money in the financial sector mentioned in the above, and in a growing inequality of income distribution and in increasing involuntary unemployment. All this confirms Skidelsky’s famous proposition on Keynes: „Depressions arise, Keynes wrote in his Treatise on Money [1930], when money is shifted from the ‚industrial circulation’ into the ‚financial circulation’“ (Skidelsky 1992, p. xxiv). And, simultaneously, the above analysis sheds some additional light on the relationship on the interaction between the real and the financial sector of a monetary production economy.

In fact, the accelerating accumulation of money without real value equivalent in the financial sector exerts a profound influence upon the real sector. In fact, the quantity of money (fM) circulating in the financial sector constantly looks for a real value equivalent. Subsequently, the interaction between the real sector and the financial sector goes on mainly through income distribution. Speculation results in higher prices of existing real and financial assets (real estate, land, shares). Aggressive investment in already existing enterprises (unfriendly take-overs, asset stripping) forces these to realise ever higher profits, and profit-maximisation gets ever more short-termed.

However, even normal investment in already existing assets, through large investment funds or pension funds for example, leads on to higher prices for shares and forces enterprises to realise higher profits. Of course, this is but one way, in which the financial sector exerts an increasing domination over the real sector; large reserve and sinking funds influence the real sector in a similar way (Keynes discusses these problems extensively in his General Theory on pp. 100-06). The increasing domination of the financial sector leads on to a more unequal distribution of incomes and a reduced...
spending power of the population and ultimately results in higher involuntary unemployment (Bortis 1997/2006, chapter 4 et Bortis 2003b, pp. 460-70). Incidentally, this shows that there are problems with the funding method for old age pensions. In fact, building up funds leads to higher saving, which, in a Keynesian vein, will reduce investment, not increase it as is supposed by the neoclassical funding method. The funding method, in fact, supposes that Say’s Law prevails, saying that saving governs investment.

Normal investment in existing assets is also associated with repercussions of the real sector on the financial sector. Again, this impact is linked up with a more unequal distribution of incomes leading to reducing, in the long run, effective demand, output and employment, and ultimately the volume of trend investment (Bortis 1997/2006, chapter 4 and Bortis 2003b, pp. 460-70). And once again, with more saving and a higher saving-income ratio, more money is shifted from the real sector to the financial sector. The ratio (fM/rM = f/i) rises and the crisis deepens.

We make three final remarks to conclude this section. First, we may reiterate that the financial sector is of the greatest importance in a monetary production economy if the financial sector stands in the service of the real sector, through providing credits to all types of enterprises and through making the payments required in the processes of production and circulation; moreover, individuals and institutions, nonprofit organizations for example, can only function properly if they dispose of some money in the financial sector for precautionary purposes and in the forme of placement investments. However, once too much money, monetary wealth in fact, accumulates in the financial sector, the real economy becomes gradually ancillary to the financial sector. Money now flows regularly from the real to the financial sector to ensure a certain profitability of profit-seeking financial capital. In Marxist terms, financial capital sucks out surplus from the productive (real) sector, which is literally drained. This dominating role of the financial sector has been called financialisation. It is well known that financialisation may seriously disrupt the real sector. Firms can no longer adopt a long-term perspective in view of improving technologies and eventually work in the direction of sustained development, while realising a normal, socially appropriate profit rate; quite the contrary, under the rule of finance, firms are forced to maximise short-term profit, which tends to become the unique criterion of success. Macroeconomic and social criteria of success, related to a broader, socio-economic perspective, specifically to distribution, employment, social and cultural activities, and the environment, tend to move into the background.

Second, on a world level the question arises in which currency the monetary wealth (fM) is to be held. Is it the US dollar, the Euro, or the Swiss franc and the Japanese yen? With doubts about the debt servicing capacity of the US and some European countries, large exchange rate variations have occurred in 2010-11 for reasons mainly related to the financial sector. Indeed, the value of the US dollar and the Euro have declined sharply against the Swiss franc and the Japanese yen. Given this,
Switzerland who has a strong real and financial sector is now in a most difficult situation: in the medium and long run significant parts of her export industries might be threatened. Or, in 2011, some weeks after the Tsunami-cum-Nuclear Catastrophe, the Yen started to rise sharply, creating thus enormous problems for the Japanese car industry. These are just examples of how turbulences in the globally huge financial sector may threaten even the most solid parts of the real economy.

A third final remark relates to inflation, which is a fatal menace to the monetary wealth \( (fM) \) located in the financial sector, because it tends to reduce or, in the case of hyperinflation, even to destroy all monetary values, money and financial titles expressed in money (shares, for example). Inflation may be caused by a wage-price spiral, which, in turn, may come into being in the course of conflicts over distribution in a situation of mass unemployment. Specifically, food prices or the prices of primary goods (oil, for example) may rise, leading on to social unrest and initiating, as a consequence, the wage price spiral. A more or less strong inflation will bring about an erosion of the monetary wealth \( (fM) \) located in the financial sector. Inflation may accelerate dramatically through a rush on real assets (land, real estate, for instance) and may, in this way, even end up in a hyperinflation, which would mean the total destruction of all monetary values. Given this danger, very rich people - Warren Buffett and Bill Gates in the United States and Adolphe Merkle in Fribourg/Switzerland, for instance – set up foundations pursuing charitable, cultural and scientific aims. In this way, the revenues of these foundations, and part of the capital itself, are channelled from the financial sector to the real sector; this may be complemented through government loans, which would channel additional financial means from the financial to the real sector. These are perhaps the most appropriate methods to prevent a heavy financial crisis, associated to a recession and depression in the real sector, which might end up in a disastrous hyperinflation.

This view of inflation incidentally implies that, if money is endogenous, as it is in classical-Keynesian political economy, inflation is not a monetary phenomenon at a fundamental level, but a reflection of the struggle on income distribution.

**Policy conclusions**

We make three policy conclusions. The first is about the necessity of permanent employment and incomes policies, the second about financing old age pensions, and the third about the reorganisation of the financial sector.

In the above it has been suggested that, according to classical-Keynesian political economy, there is, in fact no self-regulation at all in monetary production economies (for the theoretical arguments see Harcourt 1972 and Bortis 1997, chapter 5). On the contrary cumulative processes leading on to self-reinforcing disequilibria may come into being, even in competitive conditions; competition is ultimately self-defeating. Most importantly, an unequal distribution of incomes and involuntary
unemployment may reinforce each other. In the above it has been argued that a large financial sector dominating the real sector may reinforce this tendency through deepening financialisation. Or, as Friedrich List and Nicholas Kaldor have argued, the external employment mechanism may deepen the welfare gaps between countries and regions on account of the law of mass production: in free-trade conditions the highly developed countries producing large quantities at low costs will tend to wipe out the nascent industries of less developed countries, and, above all, tend to destroy traditional – handicraft- ways of production (Kaldor 1985, chapter III, Bortis 1997/2006, pp. 185-98; Bortis 2003c). Given this, permanent employment and incomes policy is indispensable in monetary production economies as emerges from Bortis (1997/2006, chapters 4 and 6). Such a policy can only be implemented on the basis of the internal employment mechanism, which would have to replace the presently dominating external employment mechanism (Bortis 1997/2006, chapters 4 and 6, specifically pp. 190-98 and pp. 326-43).

Relying on the internal development mechanism implies that each state must have its own money to be able to mobilise its resources. Governments must spend in order to get taxes! In fact, government expenditures (G) create the taxes (T = t Q), that finance these expenditures (G = t Q); indeed, government expenditures (G) set the economy into motion and brings about a cumulative demand for and production of consumption and investment goods (see on this Bortis 1997/2006, chapter 4). The (G = t Q) relation is analogous to the famous Keynesian formula (I = s Q): investment precedes saving and, precisely, creates the saving required to ensure the real financing of investment. The relation between government expenditures and social product (G = t Q) implies that a carefully thought out composition and size of government expenditures and a solid tax system (indirect taxes and taxes at source) represent the backbone of a modern monetary production economy and the associated institutional system. In fact, to determine the size and the composition of government expenditures, to set up a tax system, and to regulate income distribution such that full employment obtains is a fundamental, but also most difficult task governments would be permanently facing in a social liberal world.

However, when output (Q) and employment (N) increase on account of a permanent increase of government expenditures G, deficits in the current account might arise: \[X < M = \pi (b_1 + b_2) Q,\]
whereas \(X = \text{exports}, M = \text{imports}, \pi = \text{terms of trade}, b_1 = \text{coefficient of necessary imports required in production}, b_2 = \text{coefficient of non-necessary imports associated to non-necessary consumption, } Q = \text{social product})\). This requires a slight management of imports: the coefficient of non-necessary imports \((b_2)\) must be adjusted such that, broadly, an equilibrium of the balance of current account \([X = M]\) obtains in the long run. Given this, a first central task of the IMF would be to assist all countries to bring about a broad equilibrium in the balance of current account. The other fundamental IMF task
would be the transfer of resources from higher developed to less developed countries; in the case of foreign investment, the terrain in the recipient country must be prepared by increased effective demand, through an increase of government expenditures (G) for instance; otherwise, foreign resources may simply displace domestic resources (Bortis 1979). To enable the IMF to carry out these tasks, a supranational world currency, the Bancor, should be set up along the lines proposed by Maynard Keynes at Bretton Woods in 1944 (Keynes 1980). The management of the world currency would be the basic task of the World Bank, of course in close collaboration with the IMF.

A world economic and financial order along these lines would have a very important cultural implication: each country and region would be able to set up a way of life of its own, based upon implementing the fundamental values in a specific manner: that is, the good state and the good life, guided by a sense of life; the pursuit of truth in the natural, social and human sciences; the realisation of beauty in all spheres. In this way the cultural diversity would be restored and maintained worldwide, enabling global mutual enrichment on the spiritual, intellectual and material levels. Hence globalisation should not end up in a uniform world along Western lines but in a rich and diversified world in which traditional ways of life would be preserved and gradually adapted to Modernity in line with these ways of life.

Second, the financing of social insurances in general and of all types of old age pensions in particular, ought, in a monetary production economy, to be based on the pay-as-you-go (or contribution) system, not on the capital cover system (or the funding principle) as is presently the case. Indeed, as has been suggested above, the Keynesian paradox of thrift, valid in a monetary production economy, leads to a contradiction for the capital-cover system: more saving through contributions to pension funds, for example, does not bring about higher levels of investment, but, on the contrary, reduces investment. Moreover, as saving increases, more money is shifted from the real to the financial sector; this is true also for the contributions to pension funds. The quantity of money in this sector (fM) thus increases. However, since (fM) has no real value equivalent, this amount of money becomes profit-seeking financial capital which is always in quest of investment in real or financial assets (shares, land, real estate, old masters, gold, etc.) to get a revenue. This drives up the prices of these assets, which, as has been alluded to in the above, leads on to a more unequal income distribution, which, in turn, causes involuntary unemployment to increase. Moreover, large parts of (fM) are also used for speculative purposes. Given this, if pension funds buy shares at relatively high prices as a bubble develops, and if, subsequently share prices sharply decline and permanently stay at a lower level, part of the contributions to pension funds are simply transferred to stock exchange traders. In general, speculation, that is, the permanent game that is going on between bears and bulls may drive up share prices to unrealistically high levels, far above the real value of the enterprises, the shares of which are traded at the stock exchange. From time to time, bubbles explode and bring about a crisis in the
financial sector. On account of this factor and due to Keynes’s paradox of thrift as is associated to a lack of real capital, there will be a lack of financial means, and pension funds will not be able to pay the amount of pensions they promised to pay, and cuts will have to be made. Hence the funding method, in its being based on a fragile and unstable financial sector, is not appropriate to carry the weight of the old age pension system. The contribution or pay-as-you-go system is far more appropriate. Effective demand will increase because the contribution directly result in pension payments which, as a rule, will be spent entirely, increasing thus effective demand; there will be no additional saving and, consequently, no additional disruptions in the real sector caused by the financial sector. Moreover, the contribution system also strongly implements the principle of solidarity. Finally, the demographic argument suggesting that contributions might get unduly high on account of a large proportion of retired persons in total population is not valid. Indeed, many pensioners are perfectly able to go on working and would be willing to remain active.

A third policy conclusion is related to the reorganisation of the financial sector. The phenomenon of financialisation must be largely eliminated and the all-important financial sector must become again ancillary to the real sector of the economy and, in fact, to society at large. This means that the quantity of money in the financial sector (\(fM\)) should be large enough to satisfy the precautionary and the placement investment motive of individuals, families, social and cultural institutions of all kinds, non-profit institutions being a prominent example, to provide for reserves and incomes to ensure the proper functioning of the long-period activities of individuals and of social institutions in the widest sense of the term. The State will ensure its proper functioning by means of the Central Bank and an appropriate legal structure. All this would imply that markets for financial titles, the stock exchange, commodity markets, the markets for real estate, land, old masters and antiquities and so on should of course continue to exist. However, in Keynesian terms, investment would now dominate speculation. This has indeed been the case after the Second World War until approximately the mid 1980s, when the financial sector started to explode on account of the setting up of pension funds, and of growing inequalities in income distribution worldwide, but also, and increasingly, because of „black“ money originating from corruption and criminal activities on a global level.

If the amount of money circulation in the financial sector is at its appropriate size, \((fM)^*\) say, what should be done with the additional money flowing from the real to the financial sector, due to the capacity of the banking system to create money, that is, as suggested above, \([\Delta M = (1-b) S (1-r)]\) for the national (or the world) banking system as a whole? It might be appropriate that the individuals and the institutions possessing \((\Delta M)\) buy state bonds in order to finance a state budget deficit of the first type: \((G-T)_1\). This type of budget would be used to finance costs occurring in the economy due to structural and technological change, for example, the retraining and re-education of persons having
lost their job due, precisely, to technological and structural change. However, part of \((G-T)_1\) could also be used to support financially the activities of individuals and institutions for social and cultural purposes. Moreover, individuals and institutions may directly use part of their additional monetary wealth \((\Delta M)\) or sell state bonds to other individuals and institutions or to the state in order to finance social and cultural events by themselves, through setting up foundations, for example. The latter – selling state bonds to the state - would of course imply a reduction of the public debt. In this way, the first-type state deficit, \((G-T)_1\), would finance socio-economic and cultural activities at a given level of employment. The corresponding amount of financial means would thus leave the financial sector to be reinjected into the real sector. However, if savings \((S)\) exceed investment \((I)\) at full employment, an additional type of state deficit, related to the scale of economic activity, is required. Indeed the state must get more indebted such that an excess of savings over investment may be absorbed and reinjected in the economy, that is, \([(G-T)_2 = S-I)]\) such that a given employment, ideally full employment, may be preserved. From the perspective of individuals and institutions, the state must get indebted to enable them to invest monetary wealth. In this view, a large state indebtedness would represent no danger at all. State bonds of long, even of illimited duration would simply be the most important means to hold monetary wealth. And since there is a market for state bonds, individuals and institutions could dispose of their wealth at will, for example in order to permanently finance social, cultural and scientific activities through setting up foundations or to preserving the cultural heritage through buying and maintaining traditional buildings, including castles, in view of putting them to some economic or cultural use. However, the size of the public debt may be a danger if the state repeatedly borrows on the capital market and through bank credits, to get the economy out of a depression. A considerable amount of the money spent by the state is likely to flow back to the financial sector because profits and saving rise while the effects on output and employment may be negligible; indeed, the additional demand may lead on to an improved utilisation of existing capacities only and may not bring about an increase in investment because of pessimistic expectations about the future. (Incidentally, this shows the importance of permanent, that is, institutionalised incomes and employment policies. Indeed, the main problem is to shift upwards the long-term trend through these policies; this would also contribute to get economies out of a depression.) Now, with public debt rising rapidly and with the economy continuing to stagnate, the spectre of state bankruptcy may arise because the debt has to be repaid if rescheduling is no longer possible. There is indeed a great difference between public debt as part of monetary wealth of individuals and institutions and debt used to get out economies of depressions. The former has eventually never to be repaid, which is not true of the latter.
Finally, a reorganisation of the banking system would be required. Since, in the classical-Keynesian view, money is endogenous, the Central Banks cannot determine the quantity of money in an economy, but can only fix the rate of interest. Indeed, Piero Sraffa suggested that the Central Bank has to determine the rate of interest, which, subsequently, would govern the normal rate of profits. And a socially appropriate normal rate of profits is of the greatest importance in a monetary production economy. Indeed, the normal rate of profits decisively governs distribution; moreover, it brings about a socially appropriate structural set-up (if the realised rate of profits is above the normal rate in some sectors, financial capital flows into these sectors, and vice versa); hence the normal profit rate ensures the efficient allocation of resources in a classical perspective. The normal rate of profits will also enhance technical progress, because technologically dynamic firms will realise extra-profits, which is a kind of rent accruing to such firms. This implies that normal profits will also provide financial means for gross investment, that is, investment to improve and to expand the capital stock. Finally, normal profits ought to be such that firms can also sponsor social, cultural and scientific activities. This theory of the normal profit rate represents the long-period or institutional aspect of the rate of profits.

In the course of business cycles, the rate of interest and the rate of profits may deviate from their institutional long-term levels. Given this, the Central Bank should use the interest rate to dampen the amplitude of the cycles. In fact, the cyclical upswing interest rates should gradually increase, and vice versa in the downswing. Maynard Keynes has argued along these lines in his *Treatise on Money*, specifically in chapters 19 and 20.

Finally, regarding the banking system, the normal or long-period rate of interest fixed by the Central Bank should be sufficiently high and the rate of compulsory reserves ($r$) on long-term credits sufficiently low (or the ratio of own capital to assets not too high) so as to enable the banks to realise appropriate interest incomes through providing credits, in addition to other incomes from commercial banking.

Similar to enterprises in the real sector the incomes of banks ought to cover the variable and the fixed costs incurred by the banks and allow them to realise a normal profit rate based on the normal interest rate fixed by the Central Bank. Again, the latter implies that the ratio of own capital to assets, as fixed by the regulatory authorities (Basel I 1988 and Basel II 2007, and now Basel III, 2010), should not be too high in normal circumstances. This perfectly illustrates the neatless integration of the real and of the financial sector on the basis of classical-Keynesian political economy, and also integrates both sectors on the institutional level in line with this system of political economy.
References


