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# **Essentials of Constructive Heterodoxy: Profit**

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# Essentials of Constructive Heterodoxy: Profit

Egmont Kakarot-Handtke\*

## Abstract

The goal of theoretical economics is to explain how the actual economy works. Since Adam Smith economists have consistently failed to clarify the nature and magnitude of overall profit. No economist, though, would deny that profit is an important phenomenon. Yet, obviously economists are still mired in utter confusion about the most fundamental concept of their discipline. Hence, in the strict sense, there is no valid economics. From all this follows for a methodologically ambitious Constructive Heterodoxy that the accustomed foundations of Orthodoxy have to be replaced. In technical terms this is what a paradigm shift is all about.

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## 1 The key to all of economics

But it is apparent that attention must be given to the problem of profit, which problem may prove to be the key-note to the ultimate analysis and evaluation of our profit economy. (Hopkins, 1933, p. 66)

The understanding of capitalism as an economic system hinges on the correct answer to one question: How are profits made? (Kirkenfeld, 1948, p. 35)

Rather surprisingly, therefore, the nature of profits remains something of a mystery in contemporary economics; . . . (Obrinsky, 1981, p. 491)

The goal of theoretical economics is to explain how the monetary economy works. Since Adam Smith economists have consistently failed to clarify the nature and magnitude of profit (Desai, 2008). No economist, though, would deny that profit is an important phenomenon. Yet, it is obvious that economists are mired in utter confusion about the most fundamental concept of their discipline. Hence, in the strict sense, there is no economics, only some people who call themselves economists but cannot tell the difference between profit and income.

The fatal methodological defect of Orthodoxy is that it is based on behavioral axioms. Yet, no specific behavioral assumption can, for compelling methodological reasons, serve as a starting point for economic analysis. The fatal methodological defect of traditional Heterodoxy is, that it is satisfied with a pluralism of approaches that look realistic. There has been, and there still is, a distressing lack of methodological ambition.

From all this follows for Constructive Heterodoxy as first priority that the accustomed subjective axiomatic foundations of Orthodoxy have to be replaced. In technical terms this is what a paradigm shift is all about.

Based on a set of *objective* axioms all economic conceptions have to be consistently reconstructed. High on the agenda are central phenomena like market, aggregate demand, money, or profit. It is the theory of profit which is reconstructed from scratch in the following (see also 2014d; 2014b; 2013a; 2011c).

Section 2 renders the formal description of the most elementary economic configuration, that is, the pure consumption economy. From these minimalistic premises follows in Section 3 the market clearing price as result of the Structural Law of Supply and Demand. In Sections 4 and 5 monetary profit is defined and the Law of Overall Profit for the most elementary consumption economy is established. By this, the familiar profit theories are *uno actu* refuted. Section 6 clarifies the respective roles of the price and profit mechanism for economic stability. In Section 7 the Profit Law for the consumption economy with profit distribution is derived and finally, in Section 8, for the investment economy. Section 9 concludes.

## 2 Tabula rasa

But of even more importance to the fixation of economic method than the shortcomings of their psychology is the failure of the English classical economists, in their writings on methodology, to realize that political economy is not wholly or even predominantly psychological in character. (Viner, 1917, pp. 250-251)

Economics has to emancipate itself entirely from the social sciences. The subject matter of economics is the economic system.

What is needed for a start is the simplest possible *objective* description of the monetary economy. The correct formal starting point is given with the most elementary economic configuration. The pure consumption economy is defined by:

$$Y_W = WL \quad (1)$$

wage income  $Y_W$  is equal to wage rate  $W$  times working hours  $L$ ,

$$O = RL \quad (2)$$

output  $O$  is equal to productivity  $R$  times working hours  $L$ ,

$$C = PX \quad (3)$$

consumption expenditure  $C$  is equal to price  $P$  times quantity bought/sold  $X$ .

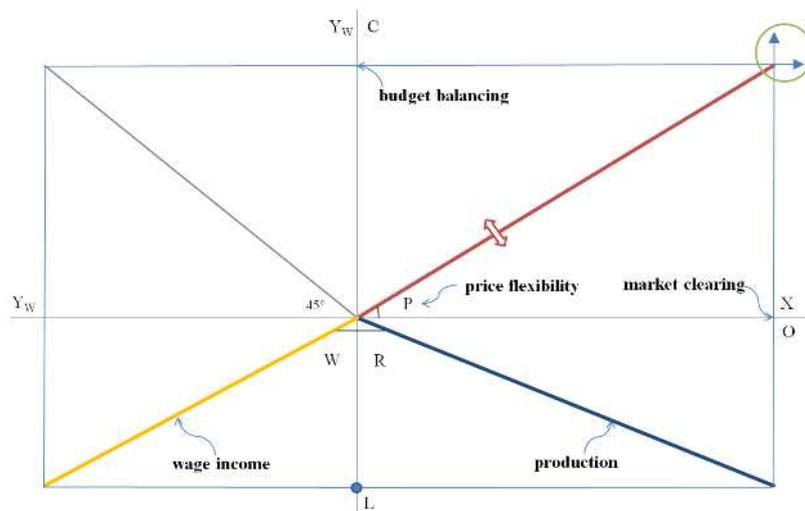
The first three equations relate to income, production, and expenditure in a period of arbitrary length.<sup>1</sup> The period length is conveniently assumed to be the calendar year. Simplicity demands that we have for the beginning one world economy, one firm, and one product.

The pure consumption economy is represented by Figure 1.

At any given level of employment  $L$ , the wage income that is generated in the consolidated business sector follows by multiplication with the wage rate. On the real side, output follows by multiplication with the productivity. Finally, the price follows as the dependent variable under the conditions of budget balancing, i.e.,  $C = Y_W$  and market clearing, i.e.,  $X = O$ . Note that the ray in the southeastern quadrant is *not* a linear production function; the ray tracks *any* underlying production function. Note also that it is methodologically inadmissible to take the assumption of decreasing returns into the premises. Note finally that  $W$  is the *average* wage rate

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<sup>1</sup> The three equations are a subset of the structural axiom set, see (2014a, Sec. 2.2)



**Figure 1:** Pure consumption economy with market clearing and budget balancing

if the individual wage rates are different among the employees, which is normally the case.

If the wage rate  $W$  is lowered, the market clearing price  $P$  falls. If the number of working hours  $L$  is increased the price remains constant, provided productivity  $R$  does not change. If productivity decreases the price rises. If productivity increases the price falls. If wage rate and productivity vary in step the price stays put. All this can be directly read off from the four-quadrant graphic (which is composed of four positive Cartesian quadrants).

In any case, labor gets the whole output, and profit for the business sector as a whole is zero. All changes in the system are – due to perfect flexibility – directly reflected by the market clearing price. This price is, in the familiar animistic economic jargon, ‘governed by the forces of supply and demand.’

### 3 The market clearing product price

After students have learned about how market economies are governed by the forces of supply and demand, it is natural for them to apply these tools to the question of macroeconomics. (Mankiw, 1998, p. 522)

The sales ratio is defined as:

$$\rho_X \equiv \frac{X}{O}. \quad (4)$$

A sales ratio  $\rho_X = 1$  indicates that the quantity bought/sold  $X$  and the quantity produced  $O$  are equal or, in other words, that the product market is cleared.

The expenditure ratio is defined as:

$$\rho_{EW} \equiv \frac{C}{Y_W}. \quad (5)$$

An expenditure ratio  $\rho_{EW} = 1$  indicates that consumption expenditures  $C$  are equal to wage income  $Y_W$ , in other words, that the household sector's budget is balanced.

From the first three equations and the two definitions follows the price as dependent variable:

$$P = \frac{\rho_{EW}}{\rho_X} \frac{W}{R}. \quad (6)$$

Under the condition of market clearing this reduces to:

$$P = \rho_{EW} \frac{W}{R} \quad (7)$$

if  $\rho_X = 1$ .

This is a rather elementary version of the Law of Supply and Demand for the pure consumption economy with one firm. In brief, the price equation states that the market clearing price is always equal to the product of unit wage costs  $\frac{W}{R}$  and the expenditure ratio. Employment is not a determinant of the price (nor is the quantity of money).

With constant unit wage costs the market clearing price depends alone on the variations of nominal demand which are formally incorporated in the expenditure ratio. Note that no subjective or behavioral concepts like optimization or market power enter into the price determination. The price formula is testable in principle and fully replaces supply-function–demand-function–equilibrium.

Here, the product price is at first treated as objectively determined dependent variable. It is, of course, possible to treat it as independent variable (2014a, Sec. 4).

#### 4 Profit/loss and dissaving/saving

Monetary profit/loss  $Q_m$  of the business sector as a whole is defined as the difference of consumption expenditure  $C$  and wage costs  $Y_W$ :

$$Q_m \equiv C - Y_W. \quad (8)$$

Monetary saving of the household sector  $S_m$  as a whole is defined as the difference of income and consumption expenditures:

$$S_m \equiv Y_W - C. \quad (9)$$

From these two definitions follows as a corollary:

$$Q_m = -S_m. \quad (10)$$

In the elementary consumption economy monetary profit and monetary saving always move in opposite directions. That is, the complementary notion to saving is loss; profit is the complementary of dissaving. Overall profit has nothing at all to do with capital or productivity. Both, orthodox and heterodox profit theories are false.

In the case of budget balancing, i.e.,  $\rho_{EW} = 1$  respectively  $S_m = 0$ , monetary profit is zero. The zero profit economy is, of course, an analytical limiting case. In actuality, the expenditure ratio differs from unity. To recall, Walras started with a zero profit economy – but he never got beyond it. Keynes, on the other hand, dealt with the profit puzzle but could not solve it (Tómasson and Bezemer, 2010). Eq. (10) refutes both the neoclassical and Keynesian approaches. With this, economics leaves the proto-scientific stage behind.

## 5 The Law of Overall Profit I

Senior's is thus the first grand attempt to explain profit as the return to a special factor of production, namely 'abstinence,' or saving (Marshall's 'waiting'). (Obrinsky, 1981, p. 492)

From (8) and (5) follows:

$$Q_m \equiv (\rho_{EW} - 1) Y_W. \quad (11)$$

Monetary profit depends on the expenditure ratio; wage income is the scale factor. This means in practical detail:

- The business sector's revenues can only be greater than costs if, in the simplest of all possible cases, consumption expenditures are greater than wage income, i.e.,  $\rho_{EW} > 1$ .
- Overall profit does neither depend upon the agents' personal qualities, motives, their ideas about what profit is, nor on profit maximizing behavior.

- In order that profit comes into existence for the first time in the pure consumption economy the household sector must run a deficit at least in one period. This presupposes the existence of a credit creating entity (for details see 2015).
- Profit is, in the simplest case, determined by the increase and decrease of household sector's debt. There is a close relation between profit/loss and the expansion/contraction of credit for the economy as a whole.
- Wage income is the factor remuneration of labor input  $L$ . Profit is not a factor income. Since capital is nonexistent in the pure consumption economy profit is not functionally attributable to capital.
- There is no relation at all between profit, capital, marginal or average productivity.
- Profit has no real counterpart in the form of a piece of the output cake. Profit has a monetary counterpart.
- The existence and magnitude of overall profit does not depend on the ownership of the firms that comprise the business sector.
- The value of output is, in the general case, different from the sum of factor incomes. This is the defining property of the monetary economy.
- Profit is a factor-independent residual and qualitatively different from wage income. Therefore, it is an elementary mistake to maintain that total income is the sum of wages and profits.
- There is no antagonism between total wages and total profits, and the distribution of consumption good output has nothing at all to do with profit.
- Innovation and efficiency are irrelevant for the profit of the business sector as a whole. It is a fallacy of composition to trivially generalize what can be observed in an individual firm.

The crucial point is that profit for the economy as a whole cannot be derived from the behavior of the individual firm. That is, the standard microeconomic approach cannot, as a matter of principle, deliver the correct profit theory. As we know by now, it actually has not; and this is why economics is a failed science.

## **6 Profit and stability**

### **6.1 Horizontal differentiation**

The business sector is now differentiated. With two firms the income equation (1) reads:

$$Y_W = W_1L_1 + W_2L_2. \quad (12)$$

Both firms produce an identical output. From (3) and (5) follows the price as dependent variable:

$$P = \frac{\rho_{EW}Y_W}{X}. \quad (13)$$

Wage income  $Y_W$  in (12) can be rewritten using the weighted average of the wage rates:

$$W^\emptyset L \equiv W_1L_1 + W_2L_2 \quad (14)$$

$$\text{with } L \equiv L_1 + L_2.$$

The total quantity  $X$  can be rewritten using the weighted average of the productivities:

$$R^\emptyset L \equiv R_1L_1 + R_2L_2 \quad (15)$$

$$\text{with } L \equiv L_1 + L_2.$$

Under the condition of market clearing and budget balancing (13) reduces to:

$$P = \frac{W^\emptyset}{R^\emptyset} \quad (16)$$

$$\text{if } \rho_{EW} = 1, \rho_{X1} = 1, \rho_{X2} = 1.$$

The market clearing price is equal to *average* unit wage costs under the condition of zero profit for the business sector as a whole, which says in other words, that one firm's profit is the other firm's loss.

The individual profit of firm 1 follows from (8):

$$Q_{m1} \equiv C_1 - Y_{W1}. \quad (17)$$

In combination with (3), (2), (4) and the condition of market clearing this yields:

$$Q_{m1} \equiv PR_1L_1 - W_1L_1 \quad (18)$$

$$\text{if } \rho_{X1} = 1.$$

In condensed form:

$$Q_{m1} \equiv PR_1 L_1 \left( 1 - \frac{W_1}{PR_1} \right) \quad (19)$$

if  $\rho_{X1} = 1$ .

From the condition that profit is zero in the initial period follows for the wage rate of firm 1:

$$W_1 = R_1 P \quad \text{at } t = 0. \quad (20)$$

The wage rate is equal to the product of the market price and firm 1's productivity. Everything is analogous to (19) and (20) in firm 2:

$$Q_{m2} \equiv PR_2 L_2 \left( 1 - \frac{W_2}{PR_2} \right) \quad (21)$$

if  $\rho_{X2} = 1$ .

The application of the wage setting rule (20) in both firms yields the market clearing price (16). Thus, all variables are determined in the initial period with the price  $P$  taken as numéraire.

Now it is assumed that the productivity of firm 1 increases in period 1, i.e.,  $R_{11} > R_{10}$ . This increases the average productivity  $R^{\theta}$  according to (15). By consequence, the market clearing price (16) falls. From (19) follows that firm 1 now makes a profit because the fall of the market clearing price is smaller than the productivity increase in the denominator.

From (21) follows that firm 2 makes a loss because the market price is lower and wage rate and productivity remain unaltered. Total profit for the business sector as a whole is zero as it was in the initial period.

Given that there was full employment in the initial period and that firm 2 is driven into immediate bankruptcy then we have unemployment after period 1 as a consequence of the productivity increase in firm 1. The impact takes its way over the market price, which obviously has more than a signaling function.

It is a fact that there are incessant random changes of productivity in both firms. Let us add the assumption that the variations are symmetric around a constant average. Under the zero profit condition profit and loss should therefore switch randomly in both firms under the condition that the loss making firm is not immediately declared bankrupt but continues business as usual. This symmetric switching between profit and loss, however, is not what we observe. Cumulated overall profit is as a rule

greater than zero. There is a bias in the system that makes profit more probable than loss.

In the case of positive overall profit, which translates in the pure consumption economy to  $\rho_{EW} > 1$ , the profit of firm 1 goes up in the case of a productivity increase and that of firm 2 goes down. Thus, the situation of firm 2 deteriorates relative to firm 1 but it is not driven straightforwardly into bankruptcy.

Under the condition that the productivity in both firms varies randomly with symmetrical rates of change individual profit goes up and down if overall profit is kept constant, and the changes repeatedly cancel out over time. This means that positive overall profit provides the indispensable safety margin in a random environment. The profit buffer is the precondition for the stability of the whole system.

Under the condition that the productivities perform a well-defined random walk it is possible to derive the amount of overall profit that keeps the firms with a high probability above the loss zone.

Is there some mechanism that sees to it that this minimum overall profit maintains the economy intact and afloat? No. There is no feedback mechanism which holds the expenditure ratio  $\rho_{EW}$  at the appropriate level. That means, if the ratio falls below a critical value the system becomes unstable because the firms are pushed closer to the loss zone. This has nothing to do with a malfunctioning of the price mechanism but is a structural property. Because of the ineradicable randomness of productivity the zero profit consumption economy – Walras's original equilibrium model – is for all intents and purposes unstable.

## 6.2 Some misunderstandings about the price mechanism

Eqs. (19) and (20) suggest an alternative stabilizing mechanism. Let us assume that the productivity changes occur randomly and that the firm manages somehow to adapt the wage rate simultaneously according to (20). Note that the assumption of simultaneous adaptation is inadmissible because it violates the laws of physics, so we are performing a pure thought experiment.

In our analytical limiting case firm 1 increases the wage rate *uno actu* if the productivity increases randomly. This satisfies the zero profit condition. Correspondingly, the wage rate is lowered in the case of a random decline of productivity. This is what the rule of perfect flexibility logically implies. It implies also that the market clearing price remains constant and that firm 2 is in no way affected by what happens in firm 1.

Clearly, this simultaneous wage rate adaptation never happens. In case of a random productivity increase the wage rate remains at first unaltered and firm 1 makes a profit; in psychological terms it reaps the rewards for its improved productivity. Under the condition of market clearing the product price falls and firm 2 makes a loss. If there is a flexible wage adaptation then firm 2 is supposed to lower the wage

rate. However, under the condition of zero overall profit, this cannot save firm 2 as long as firm 1 makes a profit.

The rule of perfect wage-price flexibility logically demands that the wage rate follows the random productivity variations simultaneously and in the same direction. In particular it demands that the wage rate *increases* simultaneously with productivity. This implies that productivity gains leave the firm at exactly zero profit. This is a bit at odds with Schumpeter's story of the entrepreneur and the coupling of profit with innovation. Under the rule of perfect wage-price flexibility there cannot be any pioneer profit in the most elementary consumption economy, and no 'creative destruction' of firm 2 (see also 2011a).

Because the simultaneous wage rate adaptation to random productivity variations is against the laws of physics – just like the perpetuum mobile – the market economy needs some structural minimum profit, otherwise the system is not viable. Unemployment can very well originate on the supply side because – and there is some irony in this – of *upward* stickiness of the wage rate.

In the analytical limiting case, perfect wage-price flexibility requires that the wage rate falls simultaneously with a random decline of productivity and that the wage rate rises simultaneously with a random increase of productivity. Because simultaneity is an inapplicable conception, stability requires more than flexibility. In the last instance, it is not the price mechanism which stabilizes the economy but the profit mechanism.

### 6.3 The wage-profit mechanism

Wages and profits are generally seen as the great antagonists and the main protagonists in the ongoing class struggle. This impression is derived from myopic empirical observation.

The profit of firm 1 is given with eq. (19) which is reproduced here:

$$Q_{m1} \equiv PR_1 L_1 \left( 1 - \frac{W_1}{PR_1} \right) \quad (22)$$

if  $\rho_{X1} = 1$ .

In the initial period holds  $\frac{W}{PR} = 1$ . Now it is assumed that the wage rate is lowered by half. According to (16), the market clearing price falls but not as much as the wage rate of firm 1. As a result, firm 1's profit is positive in period 1. We observe wage rate down – profit up. And here usually the thinking stops; common sense has exhausted its capacities.

Indeed, what is needed is the full picture. For firm 2 the profit formula is analogous:

$$Q_{m2} \equiv PR_2 L_2 \left( 1 - \frac{W_2}{PR_2} \right) \quad (23)$$

if  $\rho_{X2} = 1$ .

Firm 2 also starts with zero profit in the initial period. The falling market clearing price then causes a loss in period 1.

If, on the other hand, profit in the initial period was greater than zero then profit goes up in firm 1 and down in firm 2. Total profit is not affected because it depends alone on expenditure ratio which is taken as fix for the moment.

When we look at firm 1 in isolation then wage and profit seem to be direct antagonists. When we look at the whole picture the antagonism vanishes. What really happens due to a wage rate change in one firm is a redistribution of output *within* the household sector. With a wage rate reduction in firm 1 the employees of firm 2 are better off in real terms because of the falling market price. In the business sector profit is redistributed; firm 1 is better off to the detriment of firm 2 (for more details see 2014c).

Translated into political jargon: in the pure consumption economy there is no antagonism between wage and profit because the redistribution of real output and overall profit takes place *within* the ‘classes’, which are here identical with the wage receiving household sector and the profit/loss making business sector. The deeper reason is that the existence of overall profit depends on the expenditure ratio; wage rate and employment are only scale factors.

#### 6.4 The problem of the complete temporal sequence

We return to the undifferentiated business sector and now let the expenditure ratio vary randomly around unity. According to (11) profit and loss alternate and cancel out in the course of time. This, however, is not what we observe. Most of the time overall profit is positive. This fact finds its explanation ultimately in the investment economy. However, let us stay for the moment in the pure consumption economy.

It is assumed that the household sector keeps the expenditure ratio above unity for an arbitrary stretch of time. The business sector posts a profit in each successive period and is supposed to increase employment as long as profits are positive. The economy grows. What grows also, of course, is the household sector’s debt. Much depends on whether total income grows faster or slower than debt. In principle, this process can go on for a long time without disturbances (provided the firms and institutions that make up the banking sector are intelligently designed).

No matter how long the growth phase lasts, at some point the household sector starts to redeem the debt. Saving, i.e.,  $\rho_E < 1$ , turns the profit of the business sector into

a loss and it is assumed that this leads to a reduction of employment. The growth process goes into reverse. Note that there is no debt default and no crisis in the banking sector. The households simply pay off their debt as they are supposed to do eventually. The increase of unemployment cannot be ascribed to any malfunctioning of markets, it is the normal result of the household sector's deleveraging (see also 2013b).

In sum: the stability of the pure consumption economy depends on profit and therefore on the growing debt of the household sector. The economy lives literally on borrowed time. Within an equilibrium framework this is unknowable. Temporal asymmetry is crucial. Whether the wage-price mechanism is flexible or the allocation of resources is efficient is ultimately not a matter of such great importance.

## 7 The Law of Overall Profit II

Once profit has come into existence it can be distributed or retained. The firm's distributed profit is defined as product of dividend  $D$  and number of shares  $N$ . Personal ownership, for instance, means formally  $N = 1$ .

$$Y_D \equiv DN \quad (24)$$

For the moment it can be left open who owns the shares or how ownership is established.

With the inclusion of distributed profit the income equation (1) changes to:

$$\begin{aligned} Y &= WL + DN \\ &\text{or} \\ Y &= Y_W + Y_D. \end{aligned} \quad (25)$$

From the profit definition (8) then follows:

$$Q_m \equiv Y_D - S_m. \quad (26)$$

Monetary profit in period  $t$  is given as difference of distributed profit and monetary saving. Eq. (26) compares to (10).

We define the distributed profit ratio  $\rho_D$  as quotient of distributed profit income and wage income:

$$\rho_D \equiv \frac{Y_D}{Y_W}. \quad (27)$$

The distributed profit ratio is a simple metric for the income distribution. It is different from the share of income  $Y_D/Y$  but there is a unique relationship between the two.

With total income  $Y$  the expenditure ratio reads now:

$$\rho_E \equiv \frac{C}{Y}. \quad (28)$$

In a more general form, the Profit Law for the pure consumption economy is now given with:

$$Q_m \equiv \left( \rho_E - \frac{1}{1 + \rho_D} \right) Y. \quad (29)$$

The two objective determinants of overall profit are the expenditure and the distributed profit ratio. Again, it is irrelevant what the agents think about the nature of profit or where it comes from. Psychological explanations like reward or compensation for some sacrifice are, of course, futile and far off the mark. Overall profit is fully explained by the structural properties of the monetary economy. The Profit Law is testable with an accuracy of two decimal places.

The special case of perpetual profit is characterized with  $\rho_E = 1$ ,  $\rho_D > 0 = c$ . This means, if a constant amount of profit is fully distributed and fully consumed under the condition of a constant wage income then it reproduces itself for an indefinite time. The same holds if distributed profit moves in perfect step with wage income. In this case, the period output is distributed according to the concrete value of the distributed profit ratio. The idea that real shares are determined by marginal productivities of a well-behaved production function is of unsurpassable ridiculousness.

Compared to the most elementary consumption economy profit distribution enhances stability under the condition of an expenditure ratio of unity. In principle it is possible to make the profit buffer as big as required by the structural peculiarities of the concrete economy. It is not to be expected that this happens spontaneously. In any case, the stability of the economy is enhanced by profit distribution. However, much depends on who gets the distributed profit income and how it is spent (2012).

## 8 The Law of Overall Profit III

The business sector is now split into the consumption good and the investment good industry. Each industry consists of one firm (for more details see 2011b). The income equation (1) then changes to:

$$Y = \underbrace{W_C L_C + W_I L_I}_{Y_W} + \underbrace{D_C N_C + D_I N_I}_{Y_D}. \quad (30)$$

Profit of the consumption good industry is given analogously to (8) by:

$$Q_{mC} \equiv C - W_C L_C. \quad (31)$$

By the same token is profit for the investment good industry given by:

$$Q_{mI} \equiv I - W_I L_I. \quad (32)$$

The period profits of both industries sum up to:

$$Q_m \equiv Y_D + I - S_m \quad (33)$$

$$\text{with } S_m \equiv Y - C.$$

Total monetary profit of the business sector increases with profit distribution  $Y_D$  and increasing investment expenditures  $I$  and decreases with monetary saving  $S_m$ . Eq. (33) compares to (26) and (10).

The Profit Law for the investment economy reads:

$$Q_m \equiv \left( \rho_{EC} + \rho_{EI} - \frac{1}{1 + \rho_D} \right) Y \quad (34)$$

$$\text{with } \rho_{EC} \equiv \frac{C}{Y}, \rho_{EI} \equiv \frac{I}{Y}.$$

Profit depends on the consumption and investment expenditure ratio and the distributed profit ratio. Total income is the scale factor. In the special case  $\rho_E = \rho_{EC} + \rho_{EI} = 1$  monetary profit depends alone on distributed profit. The special case entails that the investment expenditure ratio goes up if the consumption expenditure ratio goes down and vice versa. This does not happen spontaneously, of course, but is an important analytical limiting case. In the real world the overall expenditure ratio  $\rho_E$  is always different from unity. Eq. (34) compares to (29) and (11). The simpler versions are special cases of the general formula (34).

It is very plausible that there is a relationship between profit and distributed profit. This is to say that the distributed profit ratio  $\rho_D$  depends on the expenditure ratio  $\rho_E$  and this establishes a positive feedback loop which contributes to business cycles. We do not go further in this direction here.

In the normal case the household sector saves, i.e.,  $\rho_{EC} < 1$ . The growth of the real capital stock is determined by the investment expenditure ratio  $\rho_{EI} > 0$ . If the sum

of both ratios  $\rho_E$  is greater than unity, then the business sector makes a profit under the condition of  $\rho_D = 0$ . If the distributed profit ratio has been initially greater zero then profit increases. The growth of the capital stock happens at overall zero profit if  $\rho_E = 1$  and  $\rho_D = 0$ . If the sum  $\rho_E = \rho_{EC} + \rho_{EI}$  remains below unity the business sector as a whole makes a loss and this triggers a downturn or worse.

There is no self-stabilizing mechanism in the economy that ensures that overall profit remains safely above the structurally given minimum profit. Hence, a perfectly functioning price mechanism does not guarantee the stability of the economy. System stability requires that the value of the bracket in (34) is greater than unity. It is the profit mechanism which is decisive in the market economy. The economy is not stable because there is an innate tendency towards equilibrium, the market economy is stable because asymmetric growth produces profit.

## 9 Conclusion

The remaining extensions of the Profit Law pertain to the inclusion of the government sector and of foreign trade. The monetary side has already been dealt with in greater detail in (2015). The main take-aways of the comprehensive structural profit theory are:

- While it is commonsensical that ‘supply and demand’ determine the product price, the omnipresent supply-function–demand-function–equilibrium graph is not a valid representation of what happens in the markets.
- The Structural Law of Supply and Demand for the consumption economy with one firm states that the market price is equal to the product of unit wage costs and the expenditure ratio under the condition of market clearing.
- In the elementary consumption economy monetary profit and monetary saving always move in opposite directions. That is, the complementary notion to saving is loss; profit is the complementary of dissaving. Overall profit has nothing at all to do with capital or productivity. Both, orthodox and heterodox profit theories are false.
- Profit for the economy as a whole cannot be derived from the behavior of the individual firm. The standard microeconomic approach cannot, as a matter of principle, deliver the correct profit theory.
- Positive overall profit provides the indispensable safety margin in a random environment. The profit buffer is the precondition for the stability of the whole system.
- In the pure consumption economy there is no antagonism between wage and profit because the redistribution of real output and overall profit takes

place *within* the wage receiving household sector and the profit/loss making business sector.

- The stability of the pure consumption economy depends on profit and therefore on the growing debt of the household sector. The economy lives literally on borrowed time.
- The two objective determinants of overall profit are the expenditure and the distributed profit ratio. It is irrelevant what the agents think about the nature of profit or where it comes from. Psychological explanations like reward or compensation for some sacrifice are futile. Overall profit is fully explained by the structural properties of the monetary economy.
- It is the profit mechanism which is decisive in the market economy. The economy is not stable because there is an innate tendency towards equilibrium, the market economy is stable because asymmetric growth produces profit.

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