

Keynes's *Treatise on Money* and the role of the State

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Resumen

Este artículo hace una reconstrucción crítica de la visión de Keynes sobre la relación entre gasto público, tipo de interés, salarios y desempleo, tal y como se formula en su *Tratado sobre el Dinero*. El trabajo defiende que el enfoque de Keynes lleva a propuestas de política económica que enfatizan la necesidad de intervención estatal directa en la provisión de bienes y servicios. Esta conclusión se deriva de una interpretación circuitista de su obra.

Palabras clave: John Maynard Keynes, dinero endógeno, política fiscal

Clasificación JEL: B22; E12; D33

Abstract

This paper aims at providing a critical reconstruction of Keynes's view on the links existing between public spending, interest rate, wages and employment, as formulated in his *Treatise on Money*. It will be argued that Keynes's approach leads to a policy prescription which stresses the necessity of direct State intervention in supplying goods and services. This conclusion is derived from a circuitist interpretation of this work.

Keywords: John Maynard Keynes, endogenous money, fiscal policy

JEL Classification: B22; E12; D33

1. Introduction

Keynes's *Treatise on money* (hereafter TM) has been interpreted as a work located within the Neoclassical tradition and containing significant differences compared to the *General Theory* (GT), according to what can be called a "discontinuist" reading of Keynes's thought. In particular, it has been stressed that Keynes's works before the GT are aligned with the neoclassical-Marshallian tradition; it was only with the GT that Keynes developed his idea of revolutionising economic theory essentially by overturning Say's law (it was now aggregate demand that determined aggregate supply). Well-known examples of this interpretation are in Blaug (1968) and Patinkin (1956, 1967, 1990). By contrast, other scholars interpret the links between the TM and the GT in a radically different way. Seccareccia (2004), among others, stresses that: "In carefully examining the two works, one acquires the obvious impression that, with some inevitable modifications, the *General Theory* could be incorporated into the *Treatise*, perhaps, as an additional volume on the workings of a particular phase of the Credit Cycle [...]. In the presentation of the Credit Cycle, the *Treatise* takes us through a logical process covering a complete cycle. Conversely, in the *General Theory*, he limits himself to the notional space τ_i , representing an interval of logical time within which the level of investment, the capital stock and the state of long-term expectations are all given".

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Moving along this line of interpretation, it will be shown that the TM departs from the Neo-classical tradition in at least two basic respects: (i) Keynes describes the working of a *monetary economy*, where the banking system does not act as a pure intermediary, being in the position to create credit-money without a previous collection of savings, and to set the *nominal* interest rate;¹ (ii) in the TM, Keynes emphasises the existence of endogenous mechanisms which generate structural *disequilibrium* involving a dynamic process where vicious circles cannot be stopped except by means of external interventions. These features of the TM are underlined by Keynes himself in the “Preface”: “[...] I propose a *novel* means of approach to the fundamental problems of *monetary theory*. My object has been to find a method which is useful in describing, not merely the characteristics of static equilibrium, but also those of *disequilibrium* and to discover the *dynamic laws* governing the passage of a monetary system from one position of equilibrium to another”. Circuitist scholars share the belief that Keynes’s most accurate description of the working of a monetary economy can be found in this work, while the *General Theory* focuses on the “special case” of mass unemployment and crises (Graziani, 1984).²

As a matter of fact, the idea that the banking system creates money *ex nihilo*, so that “loans make deposits”, can be regarded as a key concept of Keynes’s theory of money and banking, and it is a cornerstone of the contemporary monetary theory of production –hereafter MTP– or monetary circuit approach (cf. Graziani, 2003; Forges Davanzati, Pacella and Patalano, 2015). Schematically, the basic model of the MTP describes the functioning of a sequential economy which involves three macro-agents: banks, firms and workers. The banking sector creates money *ex nihilo*, in accordance with the idea that loans make deposits; firms advance the money wage bill and produce commodities; workers supply labour power. The circular process of the monetary economy starts with bargaining in the money market between banks and firms. Banks supply firms with initial finance; firms need money in order to pay workers and to start production. The monetary circuit closes with the repayment of the initial finance to banks –the so-called “destruction of money” (Graziani, 2003).

In the *Treatise on money*, Keynes (1971 [1930], p. 23) points out that “it is evident that there is no limit to the amount of bank money which the banks can safely create *provided that they move forward in step*”. Since for the production process to start, a previous creation of money by the banking system is needed, it follows that, as well as the movements of the interest rate, one of the most important factors determining output and the level of employment is the bank’s degree of accommodation, i.e. their willingness (and convenience) to fully satisfy firms’ demand for credit. Moreover, insofar as firms use credit to pay wages, banks’ decisions crucially affect output, employment and wages. This idea is clearly present in Keynes’s thought, particularly in the *Treatise on Money* (cf. Keynes, 1971 [1930], p. 244).

The aim of this paper is twofold. First, it aims at providing a critical reconstruction of Keynes’s view on the links between the dynamics of wages and the variation of the interest rate. Second, it aims at showing that, according to a *circuitist* interpretation of Keynes’s thought, direct State intervention in supplying goods and services proves more effective than monetary transfers in improving income distribution.

The paper is organized as follows. Section 2 deals with a reconstruction of Keynes’s thought on the relation between banking policy and the labour market, focusing on the causes of unemployment. In section 3 a simple macroeconomic model is proposed where it is shown that direct State intervention in the supplying of goods and services proves more effective in improving income distribution than public *monetary* transfers. Section 4 concludes.

2. Keynes on the dynamics of wages, prices and the interest rate

¹ Keynes (1971 [1930] pp.17 ff.), also explicitly considers the case where money is used as a “store of value”, which is –as we know– a key analytical category expanded in the GT. He adds (p.18) that the same phenomenon can refer to “the hoarded ingots and ornaments held as a store of value by the nobles and the people of the country”.

² Bellofiore (2013); Carrera and Rossi (2015).

In dealing with the causes of variations of the price level, Keynes (1971, pp. 140 ff.) distinguishes between “spontaneous changes” and “induced changes”. The first case pertains to the increase in money wages, due to the increase in unions’ bargaining power, and it is labelled “income inflation”. The second case pertains to the increase of profits, which gives rise to “profit inflation”.³ Keynes mainly focuses on the second case since he assumes that “induced changes are likely to be much more important than spontaneous changes over the short period”. Keynes’s reasoning is entirely based on a theory of prices based on the “fundamental equation”: the price level of consumer goods is determined by the sum of the average cost of labour (W/e) - i.e. the ratio between money wages and productivity- and the difference between the cost of production of capital goods and savings divided by the total amount of consumer goods $(I'-S)/R$ (Keynes, 1971, p.124), i.e.:

$$[1] \quad P = \frac{1}{e}W + \frac{I'-S}{R}$$

Spontaneous and induced changes will be dealt with separately below.

a) *Spontaneous changes.* This is the case where Keynes finds a *direct relation between money wages and interest rates*. His argument runs as follows. If money wages increase, the consequent increase in marginal costs generates a price rise. For firms to pay a higher money wage, the demand for money –on the part of firms- must increase. In the event this is “incompatible with the ideas of the currency authority or with limitations of its powers”,⁴ the banking system reduces money supply and, as a result, firms react by opposing workers’ claims. Accordingly, rises in the money wage prove to be counterproductive for workers as a whole, because they are opposed by banking policy in the form of credit restriction or higher interest rates (Keynes, 1971 [1930], pp. 150 ff.).⁵ A similar argument is made in the *General Theory* (Keynes, 1973 [1936], p. 263 ff.). Notice that these causal links hold on two conditions. First, Keynes considers only the case where firms react to the increase in money wages by demanding more credit from the banking system, which presupposes that they cannot finance the payment of the money wage bill via internal retentions. Second, wage increases are made possible in a condition of low unemployment, since, for Keynes (1971, p. 185), “under the pressure of growing unemployment, the rate of earnings [...] will fall”. Keynes (1971, pp. 149 ff.) also considers the case where the price level varies due to the change in “efficiency”. He clearly states that an increase in labour productivity – for a given money wage – determines a reduction of prices, and *vice versa*, and the increase in productivity is assumed to derive from technical progress (Keynes, 1971, p. 51). Third, Keynes’s reference to the “ideas of the currency authority” can be interpreted as a reference to the fact that the Central Bank is solely interested in preserving price stability. As a matter of fact, most of the arguments presented in the TM are designed to find the conditions that allow price stability. In order to analyse the dynamics of income distribution within Keynes’s theoretical framework, this is a crucial point insofar as it is the Central Bank’s target level of inflation which significantly affects the level of employment. If the Central Bank in-

³ In particular, profit inflation implies “commodity inflation”, i.e. an increase in the prices of consumer goods and “capital inflation” which derives from an increase in profits in the capital market (see Keynes, 1971, p.120).

⁴ Notice that banks’ reaction to the increase in prices may also be motivated by the decrease in the real interest rate. In any case, an objective-function of banks must be posed in order to rationalize their decision on the amount of money supply and on the variations of the interest rate.

⁵ As regards these questions, Post-Keynesian scholars emphasise that banks’ decisions are affected by fundamental uncertainty, so that – in economies populated by heterogeneous firms – banks tend to finance big firms, since they consider them less likely to go bankrupt (cf. Rasmkogler, 2007). Note that, following this approach, what matters is the size of firms, not – as in Keynes – the level (and the dynamics) of wages.

creases its ‘tolerated’ (or target) inflation rate, an increase in the money wage is not counterproductive for workers, since it does not react to the price rise by increasing the interest rate, thus generating a stable dynamics of investments, employment and real wages. As Proaño et al. (2011) stress, in the TM, economic growth can be wage-driven only when the banking system behaves in an accommodating way. This is in line with Keynes’s view of the role of economic policy, as stated in the TM, when he stresses that its main objective should be “the avoidance of waste” and “considerations of social justice”. More in detail, Keynes maintains that:

in a progressive society where efficiency is increasing it may be better to stabilize purchasing power, but in a declining society where efficiency is declining, to stabilize labour power” (Keynes, 1971, p.152).

b) *Induced changes*. A rise in profits generates a rise in prices and, for the purpose of maintaining price stability, a consequent increase in the interest rate on the part of the Central Bank. This means that –for a given unitary money wage– *a decline of real wages is associated with an increase in the interest rate*. While an increase in money wages is imputed by Keynes to the increase in union bargaining power,⁶ in the TM Keynes is unclear as to the causes which can determine profit inflation. On this issue, the following remark is worth noting. Keynes maintains that producer sovereignty is a typical feature of a capitalist economy:

the entrepreneurs have been deciding quite independently in what proportions they shall produce the two categories of output [consumption goods or investment goods] (Keynes, 1971, p.123).

He adds that the decisions on savings do not necessarily match the decisions on investing: “the division of output between investment and goods for consumption is not necessarily the same as the division of income between savings and expenditure of consumption” (Keynes, 1971, p. 123). Moreover, decisions to invest do not reflect a purely rational behaviour, as “the behaviour of entrepreneurs at any given moment is based on a mixture of experience and anticipation” (Keynes, 1971, p. 144). Since, in view of this “fundamental equation”, the price level of consumer goods depends on the difference between investments and savings (assuming money wages and labour efficiency as given), it follows that inflationary pressures derive from firms’ decision to produce more investment goods than consumer goods. This is a case where inflation derives from firms’ choices, quite independently of the wage dynamics.

A key question then arises: provided that workers are not in the position to obtain higher *real* wages via *money* wage increases, and that they can experience a decrease of real wages via profit inflation, how can they obtain a more favourable degree of income distribution?

In the next section it will be shown that this outcome can occur only insofar as workers are in the position to influence economic policies, aiming at modifying the scale and the composition of output (cf. Bellofiore 2013). In this respect, direct State intervention in supplying goods and services is necessary, while public expenditure in the form of money transfers proves to be ineffective. This result is the basic link between Keynes’s arguments in the TM and the contemporary monetary circuit approach as formulated by Augusto Graziani.

Two remarks are in order: (i) the questions dealt with here do not involve a problem of macroeconomic efficiency, i.e. do not pertain to the question whether or not a more equal income distribution implies a higher rate of growth; (ii) they do not aim to present *further* arguments to those of Graziani and other circuitist authors, but to ‘rationalize’ them and to insert them into a Keynesian theoretical framework, based on their conviction that the fundamental assumptions of the MTP derive from Keynes’s TM.⁷

A simple macroeconomic model will be provided in order to “rationalize” this issue. The starting point is Graziani’s criticism of the widespread view, among Keynesian scholars, that

⁶ Or because of “the mere human inclination to think in terms of money and to feel an increase of money earnings as a betterment” (Keynes, 1971, p. 152).

⁷ A different interpretation is provided by Costabile (2015), who stresses the affinities between Graziani’s thought and that of Schumpeter.

the fundamental role of the Government is to implement anti-cyclical expansionary fiscal policies. He critically remarks that “the Government is no longer viewed as a supplier of social services but as a supplier of liquidity” (Graziani, 2003, p. 15). Graziani (2003, p. 108) adds that: “any increase in the price level produced by government expenditure will produce an increase in money profits”, and a drop of real wages. As a result, workers can defend their real wages not by means of money wage increases (which will be translated by firms into price increases), but only via a direct control of economic policy, designed to modify the scale and composition of output to their benefit. The class nature of economic policy clearly emerges from this analysis. Graziani bases this view on Keynes's belief, as stated in his TM (Keynes, 1971 [1930], p. 337), that recessionary phases can be stopped only by means of external intervention, namely by means of public investment. As Keynes points out, in cases of “severe unemployment”, “the Government must itself promote a programme of domestic investments”. Moreover: “the desired result (i.e. the reduction of unemployment) can only be obtained through some method by which, in effect, the Government subsidises approved types of domestic investment or itself directs domestic schemes of capital development.”⁸

3. The dynamics of income distribution and State intervention

In the logic of the MTP, in a closed economy, aggregate money profits are equal to the difference between firms' money revenues (which, in turn, depend on worker consumption) and their money costs. Public expenditure, for instance for the payment of pensions, salaries to workers employed in the public sector or unemployment benefits, enters the profits function, insofar as it increases consumption. Money costs include the payment of the money wage bill and the interest rates (cf. Graziani, 2003; Forges Davanzati, Pacella and Patalano, 2015) Therefore, one can write:

$$[2] \quad \Pi = pC - wN + G - iF$$

Where p is the unitary price, C the quantity of consumer goods sold, G the public expenditure, w is the unitary money wage, N is the level of employment, i is the rate of interest and F is the initial finance equal to the wage bill wN . Since it is assumed that workers have a unitary propensity to consume, pC (i.e. the monetary value of the goods purchased by workers) equals the money wage bill wN .

Equation [2] shows that aggregate money profits are positive if public expenditure is positive and is higher than the cost of financing.

In view of equation [2], the rate of profits r becomes:⁹

$$[3] \quad r = \frac{wN - wN + G - iwN}{wN} = \frac{G - iwN}{wN} = \frac{G}{wN} - i$$

That is aggregate money profits, as resulting from equation [3] divided by the costs advanced. In view of equation [3] the rate of profits is positive when the public expenditure/financing ratio is positive and is higher than the interest rate. As a result, at the end of the monetary circuit ($t+I$) the price level, fixed by the mark-up rule where the interest rate directly enters the price level, becomes:

⁸ In contrast to the interpretations which imputed an implicit assumption of full employment to Keynes's TM, it should be recalled that –in writing his work– Keynes was aware that “In Great Britain, Germany and the United States at least 10 million workers stand unemployed” and that –insofar as they were involuntarily unemployed– this was a “catastrophe” (Keynes, 1971 [1930], p. 338).

⁹ The profit rate is calculated as the ratio between aggregate money profits and money capital invested, where the latter (as in most circuitist schemas) only covers the money wage bill. (see Graziani, 2003).

$$[4]^{10} p = \frac{w}{a}(1+r)(1+i) = \frac{w}{a} \left(1 - i + \frac{G}{wN} \right) (1+i)$$

Where a is the average productivity.¹¹ Equation [4] moreover establishes that the public expenditure increases the price level.¹² Given the unitary money wage set through bargaining at the beginning of the monetary circuit, the real wage becomes:

$$[5] \frac{w}{p} = \frac{a}{(1+r)(1+i)} = \frac{a}{\left(1 - i + \frac{G}{wN} \right) (1+i)}$$

The higher the amount of public expenditure, the greater the increase in p , for given values of the unitary money wage, labour productivity and interest rate. Note that when inflationary pressures occur, the Central bank tends to react by increasing the base interest rate. In view of equation [4] this produces the opposite effect to that expected by the Central bank, namely a further increase in inflation.¹³

Notice also that, since wages are entirely paid via bank credit, an *increase of money wages solely determines an increase of firms' indebtedness towards the banking sector*. Moreover, an increase in money wages can determine a rise in the price level. Contrary to Keynes's argument in his TM, this happens not because of the shift of the marginal cost curve (which is absent in the theoretical context of the MTP), but because of the possible increase in the industrial concentration ratio.

Equations [3] and [5] establish that *expansionary fiscal policies increase aggregate money profits and reduce real wages*.¹⁴ Graziani (2003) reaches the same result. However, he does not clarify why an increase in public spending should not increase the level of employment. It can be argued that Graziani implicitly assumed that (i) firms operate with a fixed technical coefficient, (ii) capital is fully utilized, in a very short-run perspective.¹⁵

3.1. Public supply and real wage

In order to avoid perverse distributive effects, a different strategy should be taken into consideration, namely *direct State intervention in supplying goods and services*. This policy will be analyzed under the conditions that public firms do not aim at gaining profits (i.e. $r=0$). It should be

¹⁰ This equation reflects the fact that firms as a whole obtain positive money profits via public spending. Consequently, G enters the price level equation.

¹¹ Seccareccia (2003) provides an interesting analysis of the problem of pricing in the MTP

¹² Smithin (2009) refers to the notion of "tolerable inflation" in order to explain the necessity, on the part of the Government or the Central Bank, to oppose price increases that society (or specific groups) consider excessive. In the theoretical context of the MTP, insofar as firms are interested in money profits, there are no grounds for them to demand price control, while it is in the interests of workers (and of banks).

¹³ On empirical grounds, Tadeu Lima and Setterfield (2010) find that a cost-push channel of monetary policy has been in operation in the 2000s in most OECD countries.

¹⁴ Note also that the more the firms are in a position to credibly 'threaten' the Government with postponing investments, or investing abroad, the higher the redistributive effects of policies devoted to paying unemployment benefits. As has been largely shown both on theoretical and empirical grounds (see, among others, Crotty, Epstein and Kelly, 1995), the labour share tends to decrease as international capital mobility increases, due to the use of 'hit and run' strategies (Bellofiore, Forges Davanzati and Realfonzo, 2000). Moreover, even in the (extreme) case where workers have rational expectations, so that they foresee the decline of real wages consequent to the payment of unemployment benefits, they are not in a position to oppose this policy, insofar – in this theoretical context – they can only bargain on money wages (Graziani, 2003).

¹⁵ It is a condition similar to a Marshallian short period. We thank Riccardo Bellofiore for this suggestion.

noted that, as a matter of fact, the quality of public goods and services depends significantly on the bargaining power of workers and firms in the socio-political arena. Schematically, one can argue that the supplying of public goods is of the nature of *pro-firm* or *pro-worker* economic policies. At one extreme, the Government can implement *pro-firm* policies by not producing goods which private firms can produce. By contrast, a *pro-worker* policy consists of providing workers with public goods and services, which directly improve their welfare. In this context, the Government pays workers in order to produce goods and services, so that:

$$[6] \quad G = w_p N_p$$

Where the pedix p indicates wages and employment in the public sector. Assuming that labour productivity in the public sector equals labour productivity in the private sector, the level of output in the public sector is:

$$[7] \quad Q_p = aN_p$$

Of course, with respect to the previous policy option, the level of employment increases, becoming $N+N_p$. On the other hand *Figure 1* shows the closure of the monetary circuit when the Government directly supplies goods. Workers spend a part c of their income on the consumption of goods produced by the State. As a result, the more workers demand goods produced by the State, the lower the profit for private firms and the higher the probability of not reimbursing their debt. The aggregate money profits for private firms are:

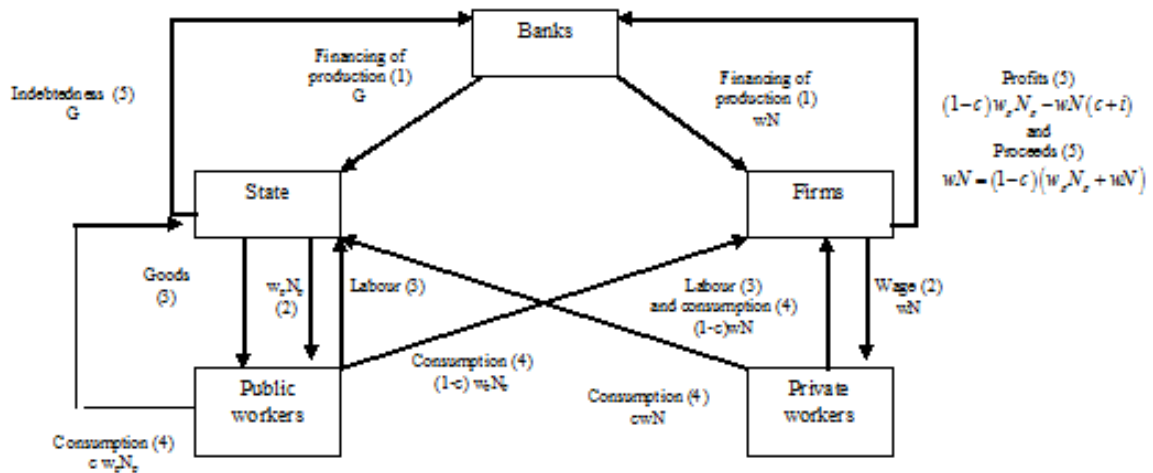
$$[8] \quad \Pi = (1-c)wN - wN + (1-c)w_p N_p - iwN$$

Equation [8] can be simplified as:

$$[9] \quad \Pi = (1-c)w_p N_p - wN(c+i)$$

Where c is the slice of public expenditure G spent on the consumption of goods produced in the public sector, so $1-c$ is the remaining slice devoted to the consumption of goods produced in the private sector. And – since $(1-c)G < G$ – the rate of profits is higher in the case of the public expenditure than in the case of direct State intervention. Of course, the greater the substitutability of private goods with public goods, the lower firms' profits are. *Figure 1* shows the genesis of monetary profits when *pro-worker* goods are produced by the State. Since goods produced in the public sector are *pro-worker*, the slice of worker income c devoted to the consumption of private goods is particularly limited. More specifically, firms obtain monetary profits when

$$0 \leq c < \frac{w_p N_p - iwN}{w_p N_p + wN} \quad \text{and can reimburse debt if } 1-c \geq \frac{wN(1+i)}{wN + w_p N_p}.$$



In order to determine the level of real wage deriving from a direct State intervention in the production of goods, the average price weighted by the relative quantity produced by both the sectors will be calculated. In detail, given Q the quantity produced by the private sector and Q_p the quantity produced by the public sector, we obtain:

$$[10] Q = aN$$

and

$$[11] Q_p = aN_p$$

The total amount of goods supply Q' becomes:

$$[12] Q' = a(N + N_p)$$

The relative weight of sectors in the economy is:

$$[13] \frac{Q}{Q'} = \frac{N}{N + N_p} \text{ for the private sector}$$

$$[14] \frac{Q_p}{Q'} = \frac{N_p}{N + N_p} \text{ for the public sector}$$

Given [13] and [14] equation [4] can be reformulated in terms of average prices. In detail,

$$[15] \bar{p} = \frac{w}{a}(1+i) \left(\frac{(1-c)(wN + w_p N_p)}{wN} - i \right) \left(\frac{N}{N + N_p} \right) + \frac{w}{a}(1+i) \left(\frac{N_p}{N + N_p} \right)$$

Equation [15] can be simplified as:

$$[16] \bar{p} = \frac{w(1+i)}{a(N + N_p)} \left[\left(\frac{(1-c)(wN + w_p N_p)}{wN} - i \right) N + N_p \right]$$

and then as:

$$[17] \bar{p} = \frac{w(1+i)}{Q'} \left[\left(\frac{(1-c)(wN + w_p N_p)}{wN} - i \right) N + N_p \right]$$

Given [17] equation [5] of the real wage can be reformulated

$$[18] \frac{w}{p} = \frac{Q'}{\left[\left(\frac{(1-c)(wN + w_p N_p)}{wN} - i \right) N + N_p \right] (1+i)}$$

Notice that the higher the level of income spent on the consumption of public goods c , the higher the real wage because of the reduction of the rate of profits in the private sector. In addition, the lower the number of workers in the public sector, the lower the real wage. In fact, given the aggregate supply, the private sector profit rate increases since the total amount of public expenditure rises. However, by comparing equation [18] with equation [5] it can be seen that direct State intervention in the production of goods results in a higher real wage since competition, even if limited, of State-produced goods with goods produced by firms reduces the private sector profit rate. Finally the higher the quantity produced in the public sector –so the higher the public employment– the higher the real wage. Equations [17] and [18] describe a situation where *public intervention in supplying goods and services is to the advantage of workers (who, as a social group, obtain higher direct and indirect wages and more employment) and reduces firms' money profits.*

4. Concluding remarks

This paper dealt with Keynes's theory of interest and wages, as established in his *Treatise on money* (TM). It has been argued that Keynes conceives a capitalist economy as a *monetary economy*, where money supply is endogenous and demand-driven. This is the principal feature of his work which links it to the contemporary monetary theory of production. Second, it has been shown that Keynes stresses that capitalist dynamics (apart from its cyclical movements) tends to spontaneously produce vicious circles which can only be stopped by means of external intervention. This particularly applies to the working of the labour market, where unemployment derives from banks' and capitalists' decisions on (respectively) the money rate of interest and the scale and composition of output, as well on the dynamics of public expenditure. A theoretical model has been provided in order to "rationalize" these arguments, showing that, according to a *circuitist* interpretation of Keynes's thought, direct State intervention in supplying goods and services proves to be more effective in improving income distribution than monetary transfers.

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