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Banking Sector, Distributive Conflict, and Monetary Theory of Distribution

by

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ABSTRACT

This paper analyzes the implications of distributional contrast for the monetary theory of distribution. The first step is to try to introduce the banking sector within Pivetti's monetary distribution theory approach. Pivetti in fact does not analyze the links between the central bank and the banking sector. It therefore seems interesting to study what role the banking sector and the financial capitalists play in this framework. Thus, an attempt is made to model the banking sector and its links to the production sector within the framework of Pivetti's approach. As this integration does not present any particular theoretical problems, the paper discusses then the ability of the aforementioned approach to explain the coexistence of near-zero (if not negative) interest rates and low real wages. The difficulty in explaining this economic phenomenon opens the way to a more general discussion of the dynamics inherent in the contrast between workers and capitalists and between financial and productive capitalists. Thus, the analysis shows that six different distributional configurations are possible (plus two others that are unstable or unrealistic), of which only two can be explained through Pivetti's monetary theory of distribution. The other four can be explained by elaborating more recent approaches that continue, enrich and develop Marx's approach.

INTRODUCTION

Pivetti's monetary theory is a very interesting explanation of distribution, in which the central bank plays a key role in the division of income between capital and labor. According to this approach, the profit rate is divided into two components: the interest rate that constitutes the opportunity cost of using capital, and a given risk premium. It is also assumed that the monetary wage is given but not the real wage, with the result that, as the central bank changes the interest rate, the profit rate and, thus, the real wage will vary. This approach has been the subject of various criticisms to which the author has often responded and which are still quite widespread in the classical-Keynesian and post-Keynesian schools.

In this article, we try to elaborate on a relevant point not explored by the author, namely the role of the banking system within this approach (Dvoskin and Feldman 2021). After developing a model of the banking sector within the theoretical apparatus of the monetary theory of distribution, a comparison is made with other approaches of monetary theory of distribution (Panico 1988) and different approaches (Shaikh 2016; Zolea 2022a).

First of all, the inclusion of the banking sector in Pivetti's theoretical framework is not problematic once the risk-free base rate has been identified. On the other hand, with regard to the comparison with other opposite approaches to Pivetti's ("opposite" as they are based on a causal relationship between profit rate and interest rate ranging from the former to the latter), the ability of the two approaches to explain more recent economic–financial phenomena should be analyzed. Indeed, in the last decade, central banks in many important world economic areas (ECB, BoJ, etc.) have used negative policy rates, transmitting these negative values to other financial rates (mainly government bonds), but real wages have remained fairly stagnant, especially in Europe. Pivetti's approach (Pivetti 2019) seems to have difficulty explaining these recent economic phenomena.

Finally, an attempt is made to elaborate on the ideas illustrated. Depending on the power relations between classes and subclasses of capitalists, one approach may be more appropriate than the other, although the "neo-Marxian" approach (Shaikh 2016; Zolea 2022a) seems to offer more possibilities.

The paper is organized as follows. The first section introduces Pivetti's approach. The second briefly examines the debate on it. The third shows the effects of the introduction of the banking sector in this approach. The fourth section discusses the difficulties of Pivetti's idea in explaining negative interest rates and low real wages. The fifth discusses the assumptions underlying the various approaches on the subject, in particular the power relations between classes and subclasses. Conclusions follow.

1 THE MONETARY THEORY OF DISTRIBUTION

Pivetti's approach incorporates overturning the causal relationship between interest rate and profit rate hypothesized by the classics (Smith [1776] 1904; Ricardo [1821] 1951).[1] He takes his cue from a passage in Chapter 5 of *Production of Commodities by means of Commodities*[2] (Sraffa 1960, 43) which seems to suggest precisely this idea.

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[1] Mentions of this hypothesis are also made by Sylos Labini (1971); Garegnani (1978-1979); Vianello (1985); Roncaglia (1988); and Schefold (1989).

[2] See also some interesting unpublished passages by Sraffa on the interest rate in Arena (2015), taken from the archives of Wren Trinity, Cambridge (Sraffa, Archives, https://archives.trin.cam.ac.uk/index.php/papers-of-piero-sraffa-1898-1983-economist). It should also be noted that, in a letter to Garegnani dated 03/13/1962 (quoted by Stirati 2022, 257), Sraffa seems to want to play down the importance of this passage (Sraffa 1960, 43) and refrain from elaborating a theory linked to this statement:

> But for the review it is perhaps best not to venture too far into this terrain: I did not intend to say anything very challenging, and in general I only wanted to put out a few signals to avoid the belief that the system is being presented as a 'foundation' for a theory of the relative supply of capital and labour! It is the negation that seems important to me: as for the affirmative, I have no intention of putting forward another mechanical theory which, in one form or another, reiterates the idea that distribution is determined by natural, or technical, or perhaps accidental circumstances {the earlier version of the letter adds: 'or in any case extraneous'} but in any case such as to render futile any action, on one side or the other, to modify it {the previous version of the letter adds: (and here, between us, I also have in mind at Cambrid[ge] as Pasinetti christened it the theory that makes the profit rate depend on the growth rate)}. In conclusion I would say that in the review it is better not to insist too much on the obiter dictum of the monetary rateof interest.' [author's translation; original version: Ma per la recensione è forse meglio non avventurarsi troppo su questo terreno: io non ho inteso dir niente di molto impegnativo, e in generale ho solo voluto metter fuori qualche segnale per evitare che si creda che il sistema viene presentato come "fondamenta" per una teoria delle offerte relative di capitale e di lavoro! È la negazione che mi sembra importante: quanto alla affermativa non ho nessuna intenzione di mettere avanti un'altra teoria meccanica che, in una forma o nell'altra, ribadisca l'idea che la distribuzione sia determinata da circostanze naturali, o tecniche, o magari accidentali {la precedente versione della lettera aggiunge: "o comunque estranee"} ma comunque tali da rendere futile qualsiasi azione, da una parte o dall'altra, per modificarla {la precedente versione della lettera aggiunge: (e qui, sia detto fra di noi, ho in mente anche alla Cambrid[ge] come l'ha battezzata Pasinetti la teoria che fa dipendere il saggio del profitto dal saggio di crescita)}. In conclusione direi che nella recensione è meglio non insistere troppo sull'obiter dictum del saggio monetario dell'interesse].

Pivetti's theory (1985, 1987, 1988, 1990, 1991) does not deal directly with bank profitability, but, more generally, with the relationship between interest rate and profit rate. His approach is, however, very similar in its conclusions to Panico's approach, the latter being based on the analysis of the banking sector.[3]

The first question posed by Pivetti concerns which variable, between the profit rate and the wage rate, is to be considered independent (Pivetti 1985, 73).[4] Since the real wage may contain a portion of the surplus, considering it the independent variable seems arbitrary. The profit rate, on the other hand, seems to be composed of two parts: (1) the interest rate on long-term loans, which can be regarded as the remuneration of capital, and (2) the "profit of enterprise," which remunerates the *risk and trouble* of productive activity. As one of the two components (or both) increases, monetary prices will also increase.

The interest rate can be controlled more or less directly by the central bank; if, therefore, the central bank controls one part of the profit rate, it follows that, if the other part is roughly given, the total profit rate is determined by the central bank. Necessary conditions for a conception of the profit rate as the sum of two autonomous components and as an increasing function of the interest rate are thus the *stability* of the normal enterprise profit and its *independence* of the interest rate. If, in fact, the enterprise's profit decreased as the interest rate increased, the profit rate could decrease.[5]

Given the nominal wage, the interest rate determines the profit rate and prices and, thus, the real wage and the entire distribution. Pivetti then analyzes the relationship between "profit of

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[3] Ginzburg and Simonazzi (1999) in addition to what is theorized by Pivetti (which they consider to be a direct mechanism), hypothesize an indirect mechanism, operating in industrialized countries, whereby the interest rate influences production costs through the relationship between the interest rate and commodity prices.

[4] Pivetti (1985, 73):

> Within the classical-Marxian approach to distribution the real wage rate and the rate of profit are not symmetrically and simultaneously determined: on the contrary, after either one of these two variables has been explained independently from both the social product and the other distributive variable, then the other one is determined as a residue. Once the view is abandoned that real wages consist of the necessary subsistence of the workers, and the possibility of variations in the division of the social surplus is admitted, a theory of distribution on these lines requires a solution to the question of which of the two distributive variables should be regarded as independent or 'given' in the present reality of the capitalist economy, and through which social-institutional channels distribution between profits and wages is actually arrived at.

[5] In contrast, a direct relationship between interest rate and risk premium would give rise to a direct relationship between interest rate and profit rate. However, Pivetti's conception has two independent components.

enterprise" and interest rate in the classics and in Marx. In his analysis, business profit and interest rate are the two *determinants* of the profit rate, whereas for Smith, Ricardo, and Marx, they are *the two parts into which profit is resolved* (Pivetti 1991, 4).

In the classics, it is the profit rate that determines the interest rate in a residual position with respect to the risk and trouble premium, objective or presumed to be such, of entrepreneurial activity; in Marx, on the other hand, the interest rate is rather autonomous from the profit rate and the enterprise's profit is a residual quantity not linked to the idea of a premium. Pivetti observes, however, that without the idea of a risk premium, business profit could only tend to zero, driven by competition. Thus, he embraces a conception closer to the thesis of Smith and Ricardo, although he keeps in mind the importance of Marx's idea that the determination of the interest rate is influenced by various economic, social, and institutional components and is not directly linked to the profit rate (Pivetti 1987, 70–71; Pivetti 1991, 68–69). The consequence is that, in Pivetti's approach, the risk premium is considered autonomous—as in Smith's and Ricardo's approach—while the interest rate is autonomous, echoing Marx's analysis: from the sum of these two quantities, we obtain the profit rate.

However, Pivetti believes that his own conception is not at odds with the Marxian idea of distribution based on class struggle: he does not deny the struggle between classes, rather he specifies the terrain of conflict.

The real wage thus becomes the dependent variable in the analysis of the relationship between profits and wages. With normal enterprise profit taken as given, attention must focus on the interest rate, and the interrelationship between wage policy and monetary policy, to explain the distribution between capitalists and workers. This approach takes into account the fact that wage bargaining primarily determines the monetary wage; then, the price level is explained along with the distribution.

Finally, in Pivetti's view, the actual division of profits between subgroups of capitalists is not important since the interest rate constitutes the opportunity cost of investing money capital in real assets (Pivetti 1985, 83).

For each industry, there is a different risk and trouble premium, which, added to an equal interest rate for each, equivalent to the opportunity cost, leads to a different total profit rate

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for each industry. For the same risk (and trouble), however, the rate of profit is the same. Pivetti's intuition can then be inserted into a system of equations analogous to that of Sraffa (1960) (i.e., as hypothesized by Mongiovi and Rühl [1993, 92–93]):

(1) $$\boldsymbol{p} = \boldsymbol{p}\boldsymbol{A}(1 + r^*) + w\boldsymbol{l} = w\boldsymbol{l}[\boldsymbol{I} - \boldsymbol{A}(1 + r^*)]^{-1}$$

(2) $$r^* = r_n + i$$

where $\boldsymbol{A}$ s unit input coefficient matrix, $\boldsymbol{l}$ is vector of labor input per unit output, w is monetary wage, $\boldsymbol{p}$ is vector of monetary prices, r^* is profit rate, r_n is normal profit of enterprise, i is long-term interest rate.

When the interest rate—considered a cost of production—changes, so do the prices and thus the real wage. If i is assumed to increase, $\boldsymbol{p}$ will increase and the $\boldsymbol{w/p}$ ratio will decrease. If workers were to achieve an increase in monetary wages to compensate for the reduction in real wages, an inflationary spiral could be created.

2 CRITICISMS TO PIVETTI'S APPROACH

First, it seems useful to report the opinion of Garegnani (1984, 320n49), regarding the idea that real wages can contain a part of surplus:

> The view that the wage can exceed the level of subsistence for long periods of time seems indeed implied also in the very idea of a rising subsistence level. This rise can result only from wages remaining above the previous subsistence level for a period of time which is long enough to engender those "habits" which may then become a "second nature" in Torrens's phrase later adopted by Ricardo […] and by Marx […]).

Therefore, Garegnani (1984, 321) continues:

> The real wage will then appear in the "core" as the magnitude which has been determined in both level and composition by the circumstances in question: profits will continue to be determined as a pure residual, though now they will not constitute

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the entire surplus.

It seems, therefore, that Garegnani does not consider the possibility, that real wages may contain a part of surplus, to be a problem in assuming the real wage to be the independent variable of the distribution.

Wray argues that the idea of dividing the profit rate into risk premium and interest as pure remuneration of capital does not fit with a conflictual view of society. This idea can be traced back to Marx, which Wray agrees with most: the very existence of financial capitalists implies a group interest in contrast to that of workers and productive capitalists, with the result that the division between interest rate and enterprise profit comes to depend on this contrast. An economic analysis without contrast reminds Wray of the marginalist approach, where interest is the remuneration of waiting and enterprise profit of the trouble of organizing production.[6] Finally, Wray points out that Pivetti does not clarify how the monetary authority sets the interest rate. Pivetti, responding to the criticism of Wray (1988),[7] reiterates the conformity of his own explanation of the distribution with the theoretical scaffolding of the surplus approach. Pivetti (1988) considers it, on the contrary, difficult to assume—in a modern capitalist system—the real wage as given once the material subsistence level of the workers is exceeded. The independent variable is thus the rate of interest, the determination of which, according to Pivetti (282), is not subject to any general law, but depends on a series of objectives and constraints with which the authorities are confronted in different ways according to the historical–social context analyzed. These factors include the contrast between classes.

Some interesting elements of the analysis by Wray (1988) should be highlighted. Pivetti's explanation of distribution certainly does not deny the struggle between classes, but a risk-based division of the profit rate does not seem immediately compatible and superimposable with a contrast-based view of the relations between finance and the productive sector, as in Marx. The contrast between subgroups of capitalists might be one of the conditions

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[6] Wray (1988, 272n7): "Pivetti's decomposition of the rate of profit into a portion attributed to trouble and risk and a portion due to the interest rate is strikingly similar to that of neoclassical theory. Entrepreneurs earn profit due to the pain of investing, while money capitalists earn interest due to waiting."

[7] It should also be noted that Pivetti (1988) responds to the criticism of Nell (1988) who considers the interest rate set by the monetary authorities to be a short-term variable, subject to many variations and difficult to compare with the rate of profit.

determining the choices of monetary authorities, but the link is rather indirect and remains vague. Moreover, a precise specification of the relationships between the Treasury (as issuer of government bonds), the central bank, and the banking sector, as well as the relationships between interest rates on government bonds, central bank *policy rates,* and bank rates are absent from Pivetti's analysis.

Mongiovi and Rühl (1993) offer a further critique[8] of the monetary theory of distribution, criticizing the idea of considering normal enterprise profit and the monetary wage exogenous variables, thus preferring an approach in which it is the real wage that is considered given[9] (94). This point echoes the Marxian view based on the conflict between classes. If, in fact, enterprise profit is not given exogenously, the effects of a change in the interest rate will be discharged between classes according to power relations and there is no economic rule that can determine the effects a priori.[10]

To conclude, we add to these debates[11] an observation on the zero tendency of the risk premium when it is determined residually. As mentioned above, this point in Marx's analysis is criticized by Pivetti (Pivetti 1987, 70–71; 1991, 68–69), who believes that if the risk premium is considered a residual, it should tend to zero, driven by competition. Considering, however, as Marx does, this part of the profit margin as the fraction of the profit margin accruing to the productive capitalist, it does not seem necessary that it should tend to zero. Indeed, competition would drive this residual to zero if it were *not* the remuneration of the productive function of capital (and the interest of the financial function). In other words, if this residual were zero, no capitalist would have any reason to go into debt in order to produce, since he would earn net zero of interest payments and other costs. The remuneration

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[8] Mongiovi and Rühl (1993, 93) state that the central bank often changes interest rates and it is therefore difficult to imagine the interest rate as a sufficiently stable quantity to be compared with the normal profit rate, a theoretical and long-run quantity (this point was also discussed by Nell, 1988).

[9] The criticism expressed is similar to that of Wray (1988). Similar views are also expressed by Argitis (2001) and Hein (2006, 2019). Hein (2006, 2019) considers the theories of monetary determination of distribution (including the work of Panico) incompatible with the Marxian approach because they would ignore the contrast between the subclasses of capitalists; changes in the interest rate may have effects on the distribution between wages and profits, but these effects are highly dependent on the market power of firms and the bargaining power of productive capitalists and workers.

[10] Mongiovi e Rühl (1993, 94): "It follows that an increase in the interest rate is as likely to squeeze (net) profits as it is to reduce real wages."

[11] Note also the remarks of Ciccone (1990) taken up by Serrano (1993) and Stirati (2001) on the real interest rate and monetary theory of distribution.

of the productive function of capital does not derive from the idea of a risk premium for the risk of production, but from the strength of the subgroup of productive capitalists relative to financial capitalists; it is residually determined[12] but depends, in Marx, on the contrast between subclasses of capitalists (*productive* and *interest-bearing*) and on, more or less, relevant influences of the general conditions of the financial and monetary sector and of competition on the determination of the interest rate. All these elements, however, play on the balance of power between the two groups of capitalists, generating a level of the residual that can be considered *stable* and *historically*-determined.[13]

Indeed, from Pivetti's point of view, if the risk premium were not objective or considered as such, it could only tend to zero,[14] but it does not seem correct to assume a similar mechanism within the Marxian approach, where the enterprise profit is not considered a premium.

There is, therefore, no internal contradiction in the Marxian approach, as suggested by Pivetti, but a difference in starting assumptions and points of view between the two authors, who arrive at different conclusions.

3 THE INTRODUCTION OF THE BANKING SECTOR IN PIVETTI'S APPROACH

Pivetti's approach does not deal specifically with the banking sector, as pointed out by Dvoskin and Feldman (2021, 13). Is it, however, possible to introduce this sector within this analysis?

Pivetti (1991, 21), identifies this (base) interest rate with the rate on long-term public bonds

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[12] To better illustrate the point, consider that taking the real wage as given, the profit rate is also residually determined, but does not tend to zero due to the bargaining power of capitalists. See Marx ([1939-1941] 1997, vol. II, 770–71).

[13] In Marx, as noted above, the interest rate is the part of the profit rate that goes to the financial capitalist, with the remainder going to the productive capitalist. The division of the profit rate is functional, how profits are then divided materially between individuals is a purely empirical question, like the division of profits between the shareholders of a company. In Pivetti's analysis, instead, the division of profits between subgroups of capitalists is not important since the interest rate constitutes the opportunity cost of investing capital in real assets and is the pure (i.e., risk-free) remuneration of capital.

[14] One could also elaborate and discuss why, in the classics, the risk (and trouble) premium is considered objective, i.e., exogenous.

and, secondarily, with the safest bond rates. Leaving aside the question of the risk that modern markets attribute to public bonds, as well as the fact that, in the European Monetary Union (EMU), each country issues bonds at a certain interest rate, while central bank *policy* rates are the same, a further complication arises. By introducing the banking sector, the base rate can only be the one set by the central bank; the central bank controls the financial market through *policy* rates, regulation of the sector, governor's pronouncements, and other instruments. States, on the other hand, issue securities at the market rate.[15] The central bank directly intervenes in the rates at which it lends or with which it remunerates the deposit of bank reserves; the central bank's maneuvers are transmitted from the banking sector to the entire financial structure and all other market rates. It would therefore seem more logical to attribute the role of base rate to one of the central bank's policy rates and to consider market rates as dependent on policy rates through the intermediation of bank rates.[16]

We, therefore, proceed by using as a base rate the main refinancing rate established by the central bank, set equal to the rate on deposits; since banks obtain resources from both the central bank and deposits, it seems quite reasonable to consider, for simplicity's sake, the two rates equal, assuming an immediate adjustment of bank rates to policy rates.[17] By maneuvering the rate on deposits, the central bank can determine the profit rate and the distribution. The focus here is also on the conception of the interest rate as pure remuneration of capital (i.e., risk-free, where the risk is that of the various sectors being remunerated by the *risk and trouble* premium (constant) of each sector).

Let us rewrite equation (2) in a way that is more useful for the following passages:

(3) $r_a = i + \pi_a$

Where r_a is normal rate of profit in any particular sphere of production (*a*), *i* is long-term interest rate or 'pure' return on capital, and π_a is the normal enterprise profit or remuneration

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[15] See Deleidi and Levrero (2021) on the influence of short-term rates set by the central bank on long-term rates, in particular government bonds.

[16] The rate on deposits with banks is lower than the rate on government bonds. Although both can be considered risk-free, deposits are more liquid.

[17] The central bank controls the refinancing rate and the rate on overnight deposits, as well as the remuneration of excess reserves. All these rates influence the bank deposit rate (see Zolea [2022a]).

for risk and trouble (Pivetti 1990, 439–40). Inserting the assumption that the base rate is the deposit rate, set by the central bank, equation (3) becomes:

(4) $r_a = \tau + \pi_a$

And in particular for the banking sector:

(5) $r_b = \tau + \pi_b$

Where π_b equals the risk premium for the banking sector, τ is the risk-free base rate *determining* the profit rate, identified in the main refinancing rate and equivalent to the deposit rate.

Let equation (5) then be inserted into a price equation of the banking sector,[18] taking nominal wage, w, as given, in equation (7):

(6) $i = \dfrac{\tau(pK_b + D) + pK_b(1 + \pi_b) + wl_b}{\Lambda}$

(7) $w = w*$

Equation (6) is the price equation of the banking sector within Pivetti's general framework.[19] The relationships between prices, nominal wages, real wages, base interest and the risk and trouble premium of the various sectors are the same as in Pivetti's framework. A change in τ will lead to a change in i, but only to the extent that it secures the risk premium π_b for the bank, given the change in the risk-free remuneration of deposits and bank capital. Thus, the difference, $i\Lambda - \tau D$, must give a value such that it repays costs and wages, covers the

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[18] Equation (6) is derived, after some algebraic steps, from:

$$(6.1) \qquad i = \frac{pK_b[1 + (\tau + \pi_b)] + \tau D + wl_b}{\Lambda}.$$

[19] Note that Dvoskin and Feldman (2021, 5) state, with regard to Pivetti's theory: "Since the structure of interest rates is not explicitly formalized, the riskless rate of return on financial assets and the loan interest rate are assumed to be equal." Equation (6) is precisely an attempt to explicitly formalize this structure of interest rates, emphasizing the difference between the riskless rate and the loan rate.

opportunity cost of capital pK_b and ensures an adequate risk premium for the banking sector.

The risk premium of the banking sector is likely to be different from that of the other sectors; however, for the same risk, the same rate of profit on invested capital is obtained in each sector. Furthermore, the lending rate on bank loans, as well as the bond rate, being higher than the risk-free base rate τ, contains a part of the risk of the borrower;[20] for the bank this is the credit risk. The bank's credit risk in turn constitutes a major component of the bank's business risk, which is remunerated by π_b.

The inclusion of the banking sector within the framework of the monetary determination of the distribution does not seem to have led to compatibility problems, although the most valid rate to be considered "base" in the presence of the banking sector is the one set by the central bank, here equal to the deposit rate.

4 MONETARY THEORY OF DISTRIBUTION AND NEGATIVE INTEREST RATE

In recent years, the rates set by the central bank have been close to zero or even negative. Thus, the risk-free remuneration of capital has been close to zero or negative, while real wages do not seem to have grown considerably[21]—indeed, in Italy they have even decreased (ILO 2022).[22] As a result, almost the entire profit rate has been absorbed by the risk premium.[23] Because, within the Pivetti's theoretical framework, the risk premium is

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[20] However, one must consider that since the bank incurs costs, the bank rate would be higher than the base rate even if the loans were risk-free, although this assumption does not seem realistic. Banking, like any entrepreneurial activity, is risky in itself precisely because of the certain anticipation of costs against uncertain revenues.

[21] See, for example, Stockhammer (2015) or INPS (2019).

[22] See ILO (2022), in particular Figure 3.5, p. 52.

[23] Pivetti (2019):

> The epoch-making policy shift away from full employment that took place at the end of the 1970s reduced the incentive to invest throughout advanced capitalism, lowering the rate of growth of fixed capital formation to less than half what it had been in the 30-year period following WWII. The point is that a reduction of the incentive to invest is one and the same thing as an increase of the risk of productively employing capital, that must perforce result in a rise of the normal component of profit necessary to remunerate it. As to the increased weight of the financial sector, it is widely acknowledged to have increased the share of business profit in total value added, as well as the ratio of total value added to money wages. (182n10)

autonomous from interest rate variations, the only possible explanation for the interest rate decrease not accompanied by a wage increase lies in assuming two independent movements of the two variables' interest and risk premiums in opposite directions (Pivetti 2019). Pivetti (2019, 177–79) addresses this issue, asserting that a (real) interest rate around zero implies a base return on capital, as well as an opportunity cost of production equal to zero. Pivetti (2019) explains the failure to raise wages by arguing that the role of opportunity cost was taken over by some positive speculative financial rate, perhaps equity[24] (and thus riskier). He then summarizes his thinking:

> The relevant point here is, in my view, that under capitalism private ownership of wealth, as distinct from ownership of productive capital, cannot permanently cease to yield an income, independently of the forms of its employment. Nor can the bulk of that income be permanently ensured by speculation and capital gains. In the context of a permanent zero interest-rate policy, mere private ownership of wealth would cease to be a sinecure, the credit system would collapse and capital income could continue to exist only as profits of enterprise. The net output or surplus of the economy would thus accrue to labour, but for the remuneration of the risks incurred in the various productive employment of wealth. A state of "euthanasia of the rentier"—that is, practically our having got out of capitalism—would thus have been achieved simply though monetary policy, without any social revolution. (178)

We note in this passage that Pivetti (2019) makes the pure remuneration of capital, based on differences in the degree of risk, coincide with the remuneration of the financial function of capital of the Marxian type,[25] based on the contrast between subclasses of capitalists. For

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[24] As mentioned above, it should be noted that the banking sector is not included in Pivetti's analysis. The base rate thus coincides with the rate on long-dated government bonds (Pivetti 1991, 21; 2019).

[25] See Pivetti (2019, 178, 184n21):

> In Marxian terms, permanent zero real interest would imply that in the first phase of the circuit M – C – M', M could never be anticipated by someone who was not himself the operating capitalist. For all those who did not intend to transform their money into productive capital, themselves, hoarding would obviously be the best choice: "[t]he miser's plan would be far simpler and surer; he sticks to his 100-pound sterling instead of exposing it to the dangers of circulation" (Marx 1887, 147). After having observed that a large part of social capital is not employed by its actual owners, Marx points out that with the development of loan capital "[t]he last illusion of the capitalist system, that capital is the fruit of one's own labour and savings, is destroyed. Not only does profit consist in the appropriation of other people's labour, but the capital with which the labour of others is set in motion and exploited consists of other people's property, which the money capitalist places at the disposal of the industrial capitalists,

Marx, however, there is no reason why the part of the profit rate that goes to the financial capitalist should be risk-free or coincident with opportunity cost, so that the productive capitalist is left with something definable as a risk premium. On the contrary, this part is the subject of clashes between subclasses of capitalists, and is influenced by various factors, among which riskiness does not enter directly, i.e., given a certain opportunity cost for investment in the economy, the financial function of capital in Marx's terms could, without any theoretical problem, obtain a remuneration far higher than the risk-free one.

From an empirical point of view, one can then observe that the deposit facility was in negative territory in the EU from 2014 to 2022 and the main refinancing rate at zero from 2016 to 2022 (not to mention that both rates had already been very close to zero for some years). In a nutshell, there was a significant period of time (about 10 years) in which nominal policy rates were around zero or negative.

Furthermore, by including the banking sector in the picture and thus making the base rate coincide with the deposit rate, it is evident that bank lending rates are higher than the risk-free base rate, clearly distinguishing the remuneration of the function of the financial capitalist from the idea of a division according to the degree of risk.

The analysis conducted in other approaches, which we could call "neo-Marxian,"[26] outside the theoretical apparatus of Pivetti, allows a better explanation of the compatibility of such low interest rates with the capitalist system. First of all, considering the real wage as given, the decrease in the interest rate corresponds to an increase in the residual *enterprise profit*, without having to resort to independent movements of the two magnitudes that compensate each other while keeping the total profit rate unchanged. Moreover, the introduction of the banking sector modifies the framework of analysis, making the role of the Marxian financial capitalist substantially coincide with that of the banker, where, in Pivetti's analysis, the latter seems more akin to a figure of the bondholder. Indeed, it is possible to identify the figure of

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and for which he in turn exploits the latter" (Marx [1894] 1959, 496). He finally emphasizes that "as long as the capitalist mode of production continues to exist, interest-bearing capital, as one of its forms, also continues to exist and constitutes in fact the basis of its credit system. Only that sensational writer, Proudhon […] was capable of dreaming of a *crédit gratuit*, this monster which was supposed to realise the pious wish of small capitalist production" (*ibid.*, 594).

[26] Shaikh (2016); Zolea (2022a).

the Marxian financial capitalist with both the banker and the bondholder, but the banker seems to suit this role better,[27] as Marx himself believes.[28]

Indeed, the rate on bank loans, as rightly noted by Pivetti (2019) cannot be zero or negative for extended periods of time. If this were to happen, credit activity would no longer be profitable, i.e., advancing the monetary capital ("interest-bearing capital," as referred to by Marx [1894] 1959) that the entrepreneur transforms into productive capital by using it in production (Marx [1894] 1959). With the disappearance of the credit system, there would remain, for the productive capitalist, only the use of his own capital, essentially the end of contemporary capitalism.

However, the bank interest rate is by no means zero or negative. Some central bank policy rates went below zero (in Europe and Japan), as did those of some government bonds issued by states (as well as some rates on deposits with banks). Bank lending rates remained *positive*. It is important to clarify the interest rate at each level of abstraction; at a very abstract level, where a single interest rate is assumed, this can only be positive. However, this rate must be identified with the bank lending rate. In an analysis at this level, policy rates or bond rates have no place. By going down to a lower level of abstraction and considering a complex and articulated rate structure, the role, effects, and significance of particular negative or zero rates can be studied.

Since, therefore, the bank lending rate is positive. Considering only the remuneration aspect of financial capitalists, it can be assumed that a situation of near-zero or slightly negative policy rates can continue indefinitely. The banker, in fact, earns on the difference between lending and borrowing rates: provided this delta remains unchanged, the profitability of capital is guaranteed even in the event of a fall in interest rates in the financial system.[29] On

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[27] Pivetti (2019) believes that a negative (or zero) remuneration of the financial capitalist is impossible in capitalism. Since, however, it is bond rates that are negative and not bank rates, it can be assumed that he identifies the financial capitalist in the bondholder. Pivetti (1991, 21), identifies the base rate in the rate on long-term government bonds and secondarily in the rate on the safest bonds.

[28] See also Bellofiore (2020, 240).

[29] Using such low policy rates, indeed, beyond a certain level could also put bank profitability at risk. Please refer to the discussion on the Zero Lower Bound (ZLB): Palley (2018); Brunnermeier and Koby (2017); Bertocco and Kaljzic (2018). European banks seem to have reacted effectively to the challenge, also with the help of the ECB (ECB 2020). There also do not seem to have been any particular bank failures linked to these low interest rates so far. Instead, the rise in interest rates also had the effect of decreasing the value of the stock

the contrary, a bond with a very low rate (zero or negative) would give a very low remuneration to the investor (zero or even negative), thus becoming unattractive for the investor, except for rather risky speculative reasons.[30]

Furthermore, if one assumes a higher-than-normal bank profit rate within a certain limit, even a reduction in the difference between bank lending and borrowing rate—and thus in the profit rate—would not drive financial capitalists out of the banking sector.

Negative nominal rates have been a reality for about 8 years in the European Union and for about 10 in Japan (not counting real rates). This phenomenon is apparently at odds with the conception of the interest rate as remuneration for financial capitalists, but a careful reconstruction of the reference rate in Marx's theory explains and resolves what, at first glance, might seem an aporia. Moreover, the analysis of banking operation illustrates why the bank can remain a profitable industry even in the presence of negative rates.

5 A MORE GENERAL APPROACH TO DISTRIBUTION

As seen above, Pivetti's approach has some difficulties explaining the co-existence of negative interest rates and low real wages. On the contrary, following Marx ([1894] 1959)[31] and partly Shaikh (2016), one can explain this situation more easily. For Shaikh (2016) in fact the real wage is given and the interest rate can be determined as the price of the commodity "loan"—the output of the banking sector—just as the prices of other commodities are determined. Thus, the profit rate determines the interest rate and their difference makes it possible to derive the enterprise's profit as the difference between the two. As Zolea (2022a, b) points out, the loan must be considered a non-basic commodity[32] in order to consider the

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held by banks of previously issued securities (as hypothesized by Palley [2018]). This is one of the central elements of the recent failure of Silicon Valley Bank and Signature Bank and the collapse of Credit Suisse.

[30] There is the possibility of capital gains by selling at a higher price than buying, a rather risky operation in the context of negative-rate securities.

[31] And Zolea (2022a).

[32] The issue is much more complex, since the "loan" commodity does not enter into any price equation of the production sector, and the interest only appears as part of the profit (Zolea 2022a, b).

profit rate a determinant of the interest rate. Otherwise profit rate and prices, including the interest rate, would have to be determined simultaneously, making it impossible to identify any causal relationship.

Thus, in the case of low interest rates and low real wages, the puzzle can be explained by assuming a high total profit rate to which low real wages correspond. Moreover, in spite of low interest rates, banks still achieve at least the normal profit rate by deriving their profit from the difference between lending and borrowing rates.

Zolea (2022a) develops this approach by bringing it even closer to Marx's thinking. Marx ([1894] 1959), in fact, considers the interest rate an independent variable, but does not clarify why it is independent. By explicitly incorporating the assumption of a higher-than-normal banking profit rate (Zolea 2022a, b) due to monopolistic behavior (Hilferding [1910] 1981), as barriers to entry due to the "class" power of bankers against productive capitalists, Marx's idea takes on more substance.

In this Marxian context, one can imagine numerous scenarios determined by the possible power relations between workers and capitalists on the one hand and productive and financial capitalists on the other, summarized in Table 1, which discusses the possible economic–social contexts that determine the intermediate data within the core of the classical theory (Garegnani 1978–79, 1984).

Before explaining Table 1, it is necessary to make a few clarifications. The words "weak" and "strong" are not precise, but, at this stage of the analysis, are useful to understand, in a heuristic way, the terms from which the issue arises.[33]

We have to note that the contrast between productive and financial capitalists is most pronounced if one assumes a higher-than-normal bank profit rate. If this is not the case, the issue seems to be one of competition between productive sectors, since bankers would obtain the same profit rate as productive capitalists and it would therefore be more difficult to assess their greater or lesser bargaining power. Furthermore, banks' profits are derived from the
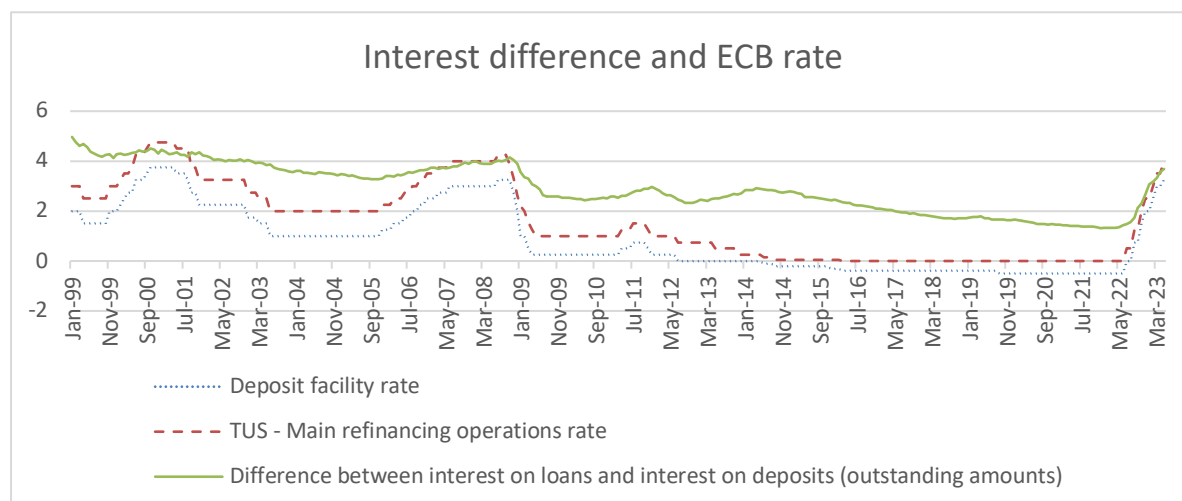
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[33] For a more in-depth study of the capital–labor distributional contrast and inflationary effects, see Stirati (2001).

spread between lending and borrowing rates. Therefore, a change in the interest rate may not affect the bank profit rate. Hence, it is important to also consider a hypothetical bondholder as a financial capitalist; in this case, the bondholder would not obtain the same profit rate as the productive capitalist, since the interest rate would be directly related to the capital invested by the bondholder. In other words, the bond buyer does not engage in entrepreneurial activity and, therefore, accepts an interest rate lower than the profit rate (otherwise it would not be possible for a company to issue bonds at an interest rate equal to the profit rate). However, this approach, similar to Pivetti's, as we have seen before, has other disadvantages. Moreover, even with a normal rate of profit in the banking sector, one can detect a conflict between capitalists, as productive capitalists would like to pay as little interest as possible on borrowed capital and do not care about the profitability of bank capital.

In general, it seems to be acceptable to consider the profit rate of the financial sector as also depending on the strength of the subclass of financial capitalists, bankers, and bondholders. In order to simplify the analysis, a simple, direct relationship between financial profits and interest rates is considered, although as mentioned above, the banking market is far more complex than the bond market.[34] Thus, banks are considered the main financial capitalist, but the existence of other types of financial capitalists is also taken into account. However, some early empirical evidence seems to show a direct relationship between interest rates and bank profitability. In Figure 1, based on Italian data, the spread between bank lending and borrowing rates follows the trend of policy rates, although it still ensures a certain level of bank profit.

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[34] In the case of market power in the banking sector, it is easier to imagine an increase in the bank profit rate in the event of a rise in the central bank interest rate, as banks can better exploit the situation to increase the interest rate differential.

Figure 1. Interest margin and ECB rate

Interest difference and ECB rate

Legend:
- Deposit facility rate (dotted)
- TUS - Main refinancing operations rate (dashed)
- Difference between interest on loans and interest on deposits (outstanding amounts) (solid)

Source: Own processing of Bank of Italy data. Values in percent.

Finally, it must be taken into account that the financial and productive capitalists tend to present a common front against the workers, with the result that the contrast between the capitalists is usually attenuated in comparison to that between the capitalists and workers. In this regard Brancaccio's analysis[35] should be noted, whereby small and large capitalists are essentially pitted against each other, while workers' organizations are quite weak and essentially irrelevant to society.

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[35] Brancaccio and Fontana (2016); Brancaccio, Giammetti, Lopreite and Puliga (2018); Brancaccio, Giammetti, Lopreite and Puliga (2019); Brancaccio, Califano, Lopreite and Moneta (2020).

Table 1. Overview of Class and Interclass Conflicts

Workers	Financial capitalists	Productive capitalists	Outcome
Weak workers	Strong financial capitalists	Strong productive capitalists	**1) Low real wage, high interest rate, stable enterprise profit, high total profit rate**
Strong workers	Weak financial capitalists	Strong productive capitalists	**2) High real wage, low interest rate, stable enterprise profit, low total profit rate**
Strong workers	Strong financial capitalists	Weak productive capitalists	**3) High real wage, high interest rate, low enterprise profit, low total profit rate**
Weak workers	Strong financial capitalists	Weak productive capitalists	**4) Low real wage, high interest rate, low enterprise profit, high total profit rate**
Strong workers	Weak financial capitalists	Weak productive capitalists	**5) High real wage, low interest rate, high enterprise profit, low total profit rate**
Weak workers	Weak financial capitalists	Strong productive capitalists	**6) Low real wage, low interest rate, high enterprise profit, high total profit rate**
Strong workers	Strong financial capitalists	Strong productive capitalists	**7) Extreme conflict, inflationary spiral**
Weak workers	Weak financial capitalists	Weak productive capitalists	**8) ???**

Pivetti's approach can be associated with the first row of the table. Assuming a given real wage, as in Marx, a rise in the interest rate reduces the enterprise profit. The productive capitalists can try to pass the financial cost onto wages and will succeed if the workers are "weak." If this pattern is repeated several times over time, it is possible to take the enterprise's profit as given and the interest rate as the variable that determines the distribution, as in Pivetti's analysis. The gross profit rate increases when the interest rate increases. In the second row, there is a similar situation, as productive capitalists are able to defend the profit of enterprise. In a Marxian view, workers could earn higher wages and the rate of profit

would fall. However, in this case, since finance capital is weak, productive capitalists manage to maintain the same enterprise profit by passing the higher cost of workers onto the interest paid to finance. Even if it is not obvious, to imagine this scenario, one might think that an increase in workers' strength could lead to greater competitiveness among capitalists and—in the case of, for example, higher-than-normal financial profits—could lead to a reduction in the market power of banks and a reduction in lending rates. Besides, in Pivetti's approach, workers can only obtain higher real wages if the central bank lowers the interest rate (or accepts a lower interest rate in an inflationary spiral). The pressure workers and productive capitalists put on the central bank can be an important means of class struggle. The key takeaway of these rows is "strength" of productive capitalists who defend their profit of enterprise (or risk and trouble premium) in any cases.

Rows 3 and 4 show the scenarios where bank profits are higher than normal, i.e., $r_b > r$ (Zolea 2022a, b), or where financial capital is "strong." In the case where workers are "strong" and productive capitalists "weak," i.e., row 3, an increase in the real wages will lead to a decrease in the overall profit rate and a decrease in the enterprise profit, while the interest rate remains high (the bank profit rate may remain above the normal one, which has decreased). Moreover, an increase in the interest rate in this context results in a decrease in the enterprise's profit, the overall profit rate and real wage being equal. One can imagine that the productive capitalists find it difficult to raise product prices due to strong competition among themselves or from abroad or perhaps because of state price controls. Otherwise, one can imagine that workers are able to obtain wage increases greater than price increases. In any case, the financial sector, with barriers to entry and a stable political force maintaining market power, manages to keep its share of profits higher than normal.

If, on the other hand, both the workers and the productive capitalists are "weak" (i.e., row 4), the result will be that an increase in the interest rate will spill over into both the enterprise profit and the real wage, to the extent that the productive capitalists are able to recoup by raising prices. The end result will be a situation with a high overall profit rate and a high interest rate, corresponding to low real wages and low enterprise profit.

Another possibility is that financial capitalists are weak (i.e., rows 5 and 6). Bankers in this case would get the normal profit rate (no less, otherwise banking would be unprofitable and no one would invest in this market), and thus the condition, $r_b = r,$ applies (as hypothesized

by Shaikh [2016]). If workers are "strong" and productive capitalists are "weak" (i.e., row 5), an increase in real wages will result in a reduction of the general profit rate and, thus, in a reduction of the enterprise profit and interest rate, to the extent that it guarantees a lower bank profit rate. Under these conditions a higher-than-normal bank profit rate would fall toward the normal level. The reduction in the overall profit rate will affect both financial and productive capitalists, depending on the internal power relations within the capitalist class.

If, on the other hand, the workers were "weak" and the productive capitalists "strong" (i.e., row 6), the interest rate would be at the level that would only guarantee the normal profit rate in the banking sector, and increases in the profit rate (e.g., through price increases or wage reductions) would lead to increases in the enterprise profit and decreases in the real wage. Alternatively, a reduction in the interest rate would enable an increase in enterprise profit, while the real wage remains stuck at a low level, as seems to have happened in recent years (Pivetti 2019).[36] This is the actual case from which the discussion about the best theoretical approach to explain these data started.

Finally, there are two further possibilities. The first, in row 7—more academic than concrete—is that workers, financial capitalists, and productive capitalists are all "strong." In this case there would be a particularly heated distributional contrast, the outcome of which would be one of the six scenarios identified above. The second is that all classes and subclasses are weak—row 8. Although this possibility has been included in Table 1 for the sake of completeness, it does not seem this possibility has economic meaning, since the rate of profit and the real wage has an inverse relationship (Sraffa 1960).[37]

As noted, all possible combinations with an economic sense have been explored and discussed in the literature (Pivetti 1991; Shaikh 2016; Zolea 2022a). Depending on the relevant social, political, historical, and economic context, one of the three approaches may be more appropriate for explaining distributional trends. However, the real wage was considered as given, following the view of the classics and Marx, although in some cases,

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[36] In recent years, real wages in European countries and the US have remained stagnant and, in some cases such as Italy, have even declined, despite the fact that policy rates were negative. In 2022, the inflation crisis led to reductions in real wages and increases in profits in several countries, although the central banks of the world's largest economies (FED, ECB) raised policy rates.

[37] Apart from the theoretical issue, this hypothesis is also not realistic or easily imaginable from a social point of view.

thanks to specific assumptions, we arrived at the same effects hypothesized by Pivetti (rows 1 and 2). This analysis confirms the idea of Garegnani (1978–79, 1984)[38] that the choice of the independent variable in the distribution, between real wage and interest rate, depends on the socioeconomic context studied.

CONCLUSIONS

This paper argues that the banking sector can be accommodated within a monetary distribution theory approach such as that of Pivetti. Therefore, going down to a lower level of abstraction than Pivetti's, one has to consider that the government bond rate can hardly be considered a base rate. In an economic–financial system in which the central bank and the Treasury are separated, the two play quite different roles. The central bank, through policy rates, influences and changes the interest rate structure, while governments finance themselves at those interest rates. An example of this is the European Union, where the central bank sets interest rates and the various states finance themselves on the market at different rates. Bank refinancing rates are an alternative for banks to taking deposits; moreover, the overnight deposit rate also influences deposit interest rates, as the negative rate data of the past years show. It, therefore, seems reasonable to assume that the deposit rate depends on the rates set by the central bank, or, for simplicity's sake, on the (single) rate set by the central bank. It follows that the risk-free base rate of Pivetti's approach can be identified in the deposit rate, which, in turn, depends on the central bank's monetary policy decisions. Once these preliminary assumptions and clarifications have been made, a modelling of the banking sector in a distributional approach *à la* Pivetti can be elaborated, where banking profitability would depend on the risk premium of the banking sector and the opportunity cost of capital invested in the banking sector, equal to the deposit rate. It thus represents both the opportunity cost of invested capital and the (effective) cost of deposits. The lending rate per unit of credit must therefore cover the cost of deposits, the opportunity cost of capital, the risk premium of invested capital, as well as the reintegration of capital and the payment of wages.

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[38] In this paper, we follow the interpretation of Stirati (2022). In particular, Stirati (2022, 256) states: "My interpretation of Garegnani's position in this respect [the monetary determination of distribution] is that it was rather cautious, and open to recognize that the influence on the distribution from the wage side or from the interest rate side could from time to time be prevalent depending on the circumstances." [author's translation].

Having solved these problems concerning the banking sector within Pivetti's approach, a further query opens up concerning the ability of this theory to explain distributional trends in the presence of negative interest rates. First, the role of the bank is particularly relevant here: while a bondholder directly earns the interest rate on the bond, the banker earns at least a normal profit rate on the invested capital, which depends (more indirectly) on the difference between bank lending rates on loans and borrowing rates on deposits. It follows that, even in the presence of low or even negative rates—albeit within certain limits that have not disappeared during the decade or so of negative policy rates—bank profitability is not seriously threatened, unlike that of the bondholder. Pivetti's approach seems to assign to an abstract bondholder figure a role similar to that of the financial capitalist in Marx's analysis, making him the pivot of the financial structure. However, it seems more correct to identify this role in the banker, as Marx also believed. Pivetti, considering only the securities market and not taking the banking sector into account, seems to see negative rates as a sort of self-destructive "euthanasia of rentiers" (Keynes [1936] 2013, 376) for the capitalist system. Instead, the inclusion of the banking sector in the theoretical framework may help to explain this issue.

Secondly, some critical remarks aimed at Pivetti's approach are interesting in light of Pivetti's explanation of a stagnating real wage accompanied by extremely low interest rates. These criticisms revolve around the lack of contrast between subclasses of capitalists and Pivetti's choice to consider the risk premium as given. Reconsidering these elements, one can wonder whether it is appropriate to take the risk premium or the real wage of workers as given within the so-called core of classical theory. Depending on the power relations between workers and capitalists and between financial and productive capitalists, as many as six scenarios seem abstractly possible, of which only two seem to be easily compatible with Pivetti's approach. As for the other four, two seem explainable through the approach of Shaikh (2016) and two through the approach of Zolea (2022a). Finally, two further combinations are possible, but one does not make economic sense and the other can only be short-lived, quickly falling into one of the six cases identified above.

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