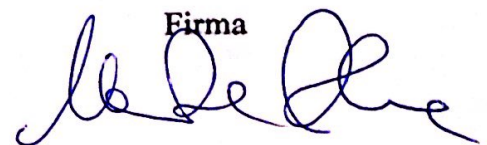


Dott.ssa Nadia Oliva  
Via Luigi Sturzo, 45/A  
82100 Benevento

La sottoscritta Dott.ssa Nadia Oliva, attesta che l'articolo "The Ethics Inside the Monetary Circuit: How Bank's Social Responsibility Affects Money Creation" pubblicato su *International Journal of Business and Management*, vol. 11, n. 7, 2016, pp. 1-11 è stato così suddiviso:

1. *Introduction*: di Nadia Oliva
2. *The monetary theory of production: Some brief remarks*: di Andrea Pacella
3. *The social responsibility of banks*: di Nadia Oliva
4. *Banks' social responsibility and credit market: A theoretical model*: di Andrea Pacella
5. *Concluding remarks*: di Nadia Oliva

Benevento, 23 giugno 2016

Firma  


# The Ethics Inside the Monetary Circuit: How Bank's Social Responsibility Affects Money Creation

Nadia Oliva<sup>1</sup> & Andrea Pacella<sup>2</sup>

<sup>1</sup> Nadia Oliva, University "Giustino Fortunato", Benevento, Italy

<sup>2</sup> Andrea Pacella, University of Catania, Catania, Italy

Correspondence: Nadia Oliva, University Giustino Fortunato, Viale Delcogliano, 12 Benevento, Italy. Tel: 39-328-465-0868. E-mail: n.oliva@unifortunato.eu

Received: February 26, 2016

Accepted: May 23, 2016

Online Published: June 18, 2016

doi:10.5539/ijbm.v11n7p1

URL: <http://dx.doi.org/10.5539/ijbm.v11n7p1>

## Abstract

The paper aims to introduce ethical remarks into the monetary circuit (or monetary theory of production) approach in order to study the mechanism of money creation when banks discriminate production on an ethical plane. By the micro-foundation of the banks' and firms' behaviour, it will be shown that the ethical discrimination of firms by banks is implemented by the differentiation of the mark-ups on the loan rate and how this discrimination leads the system to create different credit markets according to the capacity (or willingness) of firms to satisfy (or not) the ethical claims of the banks.

**Keywords:** ethics and economics, endogenous money theory, monetary circuit, social responsibility of banks, credit market

**JEL classification:** D03, E12, E41, E43, G21

## 1. Introduction

The social responsibility of firms is a term used in modern economies to qualify firms' proclivity to embody in their objective function the well-being of a wide range of stakeholders, such as workers, suppliers, local community, consumers and so on. Unlike the traditional method-in which the entrepreneur is the dominant stakeholder and profit acts as leading premium and incentive to invest capital-this approach enlarges the category of the stakeholders, often in conflict with capitalists, that are involved in the risk of business.

Moreover, it is stated that, since institutions are not able to solve effectively the conflict of interests between capitalists and other stakeholders, firms are asked to balance the aim of profit with other collective goals endogenizing the externalities produced by their activity and taking into account all the stakeholders' claims. Notice that the above statements are not just ethically but also economically justified since many economic performances of firms are shown to improve thanks to their social responsibility (see e.g. Freeman, 1984; Porter & Kramer, 2011; Oliva & Pacella, 2016).

The cluster of socially responsible firms is broad and includes both *non-profit* and *not for profit* firms: While the first kind replace the aim of profit with social aims, the second kind balance the capitalists' aim of profit with the interests of other stakeholders (Note 1).

Within the debate on the social implications of business activities, the one revolving around credit plays a significant role. This is due to the increasing awareness of the social implications of financing and the effects related to the exclusion from the traditional credit market of those who are subject to the market interest rate and that are lacking in collateral. Well-known examples of institutions created in order to select financing and overcome the above obstacles are microcredit loans and ethical banks.

Although the mechanism by which these institutions act responsibly is well known, little attention has been paid to the economic implications of their actions for the working of the credit market as a whole. This paper, in fact, tries to focus on the mechanism by which the social responsibility of banks affects the working of the credit market.

On the methodological plane we use a theoretical model inspired by the monetary theory of production (or monetary circuit) approach-which shows the working of a monetary production economy based on the idea that the money supply is endogenous and demand-driven (see e.g. Graziani, 2003)-and extend the discussion about the

behavior of banks by the grafting of moral codes into their behavior. By this we show that socially responsible banks are able to discriminate production planes, differentiating the mark-up and in turn the loan rate. This discrimination moreover leads the system to create two kinds of credit markets, also affecting the amount of financing.

The paper is organized as follows: Section 2 describes the characteristics of the monetary theory of production while Section 3 describes the matter of social responsibility of banks. Section 4, instead, shows on the theoretical plane the effects of ethical discrimination of production on loan rates and equilibria in the credit markets and financing. Finally, Section 5 concludes.

## 2. The monetary Theory of Production: Some Brief Remarks

The monetary theory of production or monetary *circuit* approach (hereafter MTP) is a theoretical framework which concerns the study of the nature and role of money in modern economies. It developed initially in Italy and France in the 1960s. This approach has had an important boost in Italy since the 1980s thanks to the contributions of Augusto Graziani who elaborated a basic theoretical schema of the workings of a monetary production economy based on the idea that the money supply is endogenous and demand-driven (see in particular Graziani, 1984, 1988, 1994, 1996, 2003). Several scholars then extended the basic schema within different theoretical frameworks of Keynesianism (see e.g. Forges Davanzati & Realfonzo, 2004), Marxim (see e.g. Bellofiore, 1989, 2004, 2005; Bellofiore & Realfonzo, 1997, 2003; Bellofiore, Forges, & Realfonzo, 2000) and Institutionalism (see e.g. Fumagalli & Lucarelli, 2008; Forges Davanzati & Realfonzo, 2009; Forges Davanzati & Pacella, 2013). The basic ideas of the theory of the monetary circuit can be summarized, using Graziani, in five propositions:

“a) Money is in the nature of credit money and in modern times is represented by bank credit. b) Credit money is created whenever an agent spends money granted to him by a bank and is destroyed whenever a bank credit is repaid. c) Money being produced and introduced in the market by means of negotiations between banks and firms is an endogenous variable. d) The community is divided into two different groups of agents. The first, represented by producers, has access to bank credit and as a consequence enjoys a purchasing power which is not constrained by the level of real income or by ownership of real wealth. The second group, represented by wage earners, can only spend already earned income [...]. [e] A complete theoretical analysis has to explain the whole itinerary followed by money, starting with the moment credit is granted, going through the circulation of money in the market, and reaching the final repayment of the initial bank loan. Money being created by the banking sector and being extinguished when it goes back to the same sector, its existence and operation can be described as a circuit” (Graziani, 2003, pp. 25-26).

There are two central moments inside the circuit: the moment in which money is created and the moment in which money is destroyed. Money is created when banks finance production and “the amount of credit supplied by the banks at this stage can be denominated *initial finance*” (Graziani, 2003, p. 27). On the other hand, money is destroyed when firms repay their bank debt once money is collected as a result of selling of commodities and securities (*final finance*). As Graziani remarks: “In contrast to initial finance, the role of final finance is no longer to enable the production process but rather to make it possible to firms to repay their bank debt” (Graziani, 2003, p. 70). MTP scholars have devoted a large part of their studies to final finance and in particular to income distribution in order to solve the problem related to the genesis of a final finance higher than the initial one (Note 2), while little attention has been devoted to the matter of initial finance and in particular to the working of the credit market (cf. Fontana, 2009). This lack is essentially due to the fact that, in the basic schema, money creation is essentially a bargaining issue between banks and firms and that “firms enjoy *total independence* when deciding upon the real aspects of production” (Graziani, 2003, p. 29). Although in the basic MTP schema “banks are assumed to be purely ‘passive’ agents” without a specified objective function (Forges Davanzati, Pacella, & Patalano, 2015, p. 12), scholars have tried to “offer interesting insights although [...] there is not a consolidated approach on this point” (Forges Davanzati, Pacella, & Patalano, 2015, p. 13). While, in fact, some consider banks as profit maximizing agents (see e.g. Bossone, 2001) others (see e.g. Palley, 1996; Rochon, 2006; Rochon & Rossi, 2007; Parguez, 2010) study the credit supply according to the expectations of banks on firms’ performances and their creditworthiness (Note 3).

The behaviour of banks, however, can also be studied from an alternative point of view, which takes into account the social and ethical implications of money circulation. Money is in fact a multidimensional category which includes, simultaneously, economic, ethical and social variables so economics should query money not only on the quantitative plane but also on the qualitative one. The opening phase of the monetary circuit, in particular, highlights an ethical matter of primary importance related to the ‘fair direction’ of production in addition to the

‘quantification of production’. Production, in fact, sets in motion and moulds a system of (internal and external) activities, actions, reactions and relationships that boost or undermine the social perception of its quality. For this reason, the bank’s activity should not be indifferent to the social perception of quality of production given the important role it covers in financing production.

### 3. The Social Responsibility of Banks

In the last twenty-five years, due to the spreading and diversification of the activities of the financial sector and to the birth and development of so called “Shadow Banking”, there has been an economic-institutional change in the international banking system, which has seen banks modify the “social” nature of their business to make it a more ambitious activity oriented toward speculation and profit (Note 4). This change has been exasperated by the diffusion of the logic of profit and of “business at all costs” (See Friedmann, 1970) also in the banking sector.

Many Banking Institutes have therefore redefined the nature of their financing and brokering activities, consistently moving toward more speculative activities by broadening the type of services and collateral tools offered. Nowadays, the role of the banking system appears to be more self-centered, acting for itself rather than as the propulsive engine of a “social” economy benefitting ample sections of the community. Consequently, many banks have built their activity upon creating financial-profitable values that are free of ethical evaluation. However, the latest tragic crisis and the notorious financial scandals linked to it, have highlighted all of the criticalities and negativities linked to an idea of economics devoid of moral principles.

Therefore, following the economical-institutional changes that have characterized the development of the banking system in the last few years and the negative results that have highlighted its criticalities especially during the latest economic-financial crisis, it is clear that there is a need to revise the conceptual antinomy that has been created between ethics and economics also for the banking system and to bring the two concepts back to a whole, because the reintroduction of ethics in economic actions has today become a need more than a choice (Note 5).

The ethics of firms, if one looks closely, must not be seen as an external limitation, but as the foundation of any action and any process whose aim is the reconciliation of interests between different stakeholders. Guido Rossi, for example, in his book “The conflict epidemic” encourages to fight against the conflict of interests that lies latent in many forms of economic exchange from their origin, and which spreads to the entire system of capitalism and threatens to crush all the legal forms upon which our societies are founded (see Rossi, 2003).

It is the concept of profit itself that must be turned over and enriched with new and deeper contents, making room for the more ethical concept of value, intended as a bonus that goes to the advantage of the *many* rather than the *few*. The success of an organization no longer derives (or at least not only) from the pursuit of profit objectives, but rather from the respect for social functions (see e.g. Sen, 2002, Sparkes, 2001).

At this point, Freeman’s “theory of the stakeholders” becomes relevant (see Freeman, 1984). This theory pinpoints other groups carrying interest other than the traditional shareholders (capitalists), and that rotate around a firm, such as workers, managers, clients, external community, surrounding environment, and so on. Moreover, it is argued that it is appropriate to satisfy the needs of all at once in order to operate according to ethically oriented management criteria (see Sella, 2003). It follows that a firm is socially responsible if it is able to meet and balance the interests of all stakeholders. By this, the firm works and develops using a set of shared values which allows, among other things, to minimize the transaction costs for all stakeholders (see Freeman, 1984) (Note 6).

Carroll (1991) then furnishes a pyramidal vision of the social responsibility of firms based of four levels: economic responsibility, legal responsibility, ethical responsibility and philanthropic responsibility. The economic and the legal responsibilities form the foundation of the pyramid; they are two essential responsibilities and are therefore at the bottom of the pyramid. On the other hand, the ethical and philanthropic responsibilities are, respectively, expected and desired ones; they are therefore at the top of the pyramid. According to the author, a firm is socially responsible if it meets all the above dimensions (see also Freeman, Rusconi, & Dorigatti, 2007). Notice also that, being at the bottom of the pyramid, economic and legal responsibilities support the other two. At the same time, however, ethical responsibility embodies moral duties and fully enters the core business of the firms affecting their performance. Finally, unlike ethical responsibility, the philanthropic one covers voluntary actions aimed to sustain the interests of stakeholders.

Because of their nature of firms meant to support the economic development of the entire society, banks should pursue internal but also external ethical goals evaluating the needs of those who apply for credit and those who want to invest their savings in view of the social and economic consequences of loans granted and capital

accumulated. Consequently, the ethical dimension of banks emerges whenever they are oriented towards a process of “excellent” intermediations that, as Dell’Atti argues, are able to satisfy not only the needs of investors but also of those who supply labor, the financier, the financed parties, and lastly, the community (see Dell’Atti, 1996).

The social responsibility of banks is actualized, therefore, through a strategic multi-stakeholder management, which places at the center of their attention not only the legitimate needs of traditional shareholders (capitalists), but also those of the various stakeholders that directly or indirectly deal with the firm, bringing the bank’s aims, its activity, its tools, its services and its accountability back to this orientation (see Tanno, 2008). The “balanced” development of the banking system then requires, for many, the compliance of the bank with the principles of social responsibility and with the derived behavioral codes that influence its added value in terms of credibility and reputation. Within this view, Corporate Social Responsibility is bound to become more and more the objective that banks will have to aim at if they want to build an effective consensus toward their activity and achieve a good placement on the market through customers’ acquisition.

On a theoretical plane, the impact of the social responsibility of banks on socio-economic dynamics is manifested tangibly in all activities, especially in those regarding production, financing and intermediation. Directing financing toward one type of production rather than another is not, in fact, free of social-economic implications in terms of employment, profits, benefits and social costs. Furthermore, during the intermediation phase, the social responsibility of the bank enables it to duly administer savings, avoiding speculative operations that might be highly risky. An increased social responsibility of the bank will furthermore enhance its reputation and credibility, two qualities that certainly allow it to easily gather savings to place them properly on the capital market. It is indeed reasonable to presume that the flows of capital, allocated in a bank, are enhanced if the saver feels that he can “trust” the bank and direct his savings toward enterprises that respect special behavioral codes. Investors will also be attracted, in their portfolio choices, to the social-ethical criteria adopted by the banks and those same criteria, together with the usual financial indicators, will determine and influence the financial analysis of firms’ value (Note 7). The banks that want to comply with enterprise ethics must combine profit and social interests while respecting the values of the civil society, and direct their mission toward the social dimension. Legitimization in this respect and attainment of a positive image derive from the actions put in place in conducting their activity, such as:

1. Offering ethically oriented financial products.
2. Putting in place proper rules of corporate governance.
3. Pursuing objectives for economic subjects.
4. Adopting transparency measures, behavioral codes in the relation between bank and clients.
5. Creating social-economic value.

The banking institution must therefore be able to develop behaviors meant to satisfy both the legitimate profit expectation and expectations regarding a higher quality of life and respect of new social values characterizing the civil society. The sensitivity of banks to the matter of ethics and social responsibility is spreading rapidly, as highlighted for example in Italy by the “First Report on Enterprises’ Social Responsibility (RSI)” (Note 8). From the report it emerges that some of the most important banks draw up a social balance sheet and have started innovative management processes, aligned with ethical certification standards. The objective of the certification is to help the client verify that the various features of a product, a service, or a process that are offered to him, comply with what is agreed upon. The Report analysis shows that there has not yet been established an accounting organizational model to refer to for the management of socially responsible and ethically oriented banks, but it is possible to observe some interesting signals, such as some banks appointing an ethical advisory board operating as a reference point on RSI issues and supervising:

1. The drafting of the social balance sheet (See Comite, 2013).
2. The acquisition of a behavioral code.
3. The carrying out of territory and local enterprise support activities.
4. The process of obtaining ethical certifications.

A bank using ethical finance tools does not have to give up its profit purposes, because financial objectives and social objectives can coexist, in fact the valorization of social objectives surely goes to the advantage of the pursuit of financial objectives (see Birindelli & Zadra, 2001).

Essentially, the image of the bank as an “asset useful to the collectivity” underlines the need to create both

economic value and social value in a perspective of sustainable development. The growing sensitivity toward ethical principles among banks and towards social responsibility has been analyzed in its evolution by the ABI benchmark. It is a tool released in 2007 with the aim of giving the bank's ranking in relation to aspects of Corporate Social Responsibility.

It has emerged that many banking establishments have changed the strategic management value of their performance and have shown they closely follow the ethical principles of transparency and reliability to renew the trust that fuels the relationship with their stakeholders.

On a global and European level, international bodies such as the UN together with the Global Compact, OECD, ILO and the European Union itself have been supporting firms' social responsibility for a long time as one of the fundamental components in order to achieve balanced economic development.

This new way to manage a firm has triggered a revolution within the European banks that have understood its real spirit. In United Kingdom, particularly, public opinion demands that the reason a firm exists is to satisfy the needs of consumers, through the production of value (including profit) and not the other way around. On an international level, the certainty is taking root that the service of a bank must be perceived as the propulsive engine of a real economy, whose benefit must be shared by ample sections of society. Warren Buffet, the legendary American Financial Times Investor, has highlighted the excessive use of derivative instruments, which he defines as "time bombs" and "financial mass destruction weapons" (Note 9).

Therefore, it is appropriate to state that the new way of doing business entails a positive approach to social responsibility, with the logic that a company's performance improves when investing more in human capital and using transparent and straightforward tools. In this perspective, a virtuous cycle is established: the positive reputation of a bank allows its stakeholders to trust it and to cooperate profitably with the firm. For the firm, improving its reputation means building value that translates into higher monetary flows. Undoubtedly, these innovative processes required of banks presume a cultural and organizational maturity needed in order to fit in successfully and with full awareness in the economic scenario of our times, oppressed by a planetary financial crisis. The banks' primary goal is to win this challenge.

Taking into account the above remarks, in section 4 we introduce ethical aspects into the monetary circuit in order to study theoretically the mechanism of money creation when banks discriminate production on an ethical plane. By the micro-foundation of the banks' and firms' behaviour, we show that the ethical discrimination of firms by banks is implemented by the differentiation of the mark-ups on the loan rate and how this discrimination leads the system to create different credit markets according to the capacity (or willingness) of firms to meet (or not) the ethical claims of the banks.

#### **4. Banks' Social Responsibility and Credit Market: A Theoretical Model**

The aim of this section is to study the working of the credit market when firms interact with socially responsible banks. We will see, in particular, how a socially responsible bank distinguishes the firms based on their degree of social responsibility differentiating the loan rate and creating two kinds of market which we call, respectively, the 'neutral credit' market and the 'moral credit' market. The first one is the market in which the bank supplies credit to firms that are creditworthy even if they do not satisfy the bank's ethical values, while the second one is the market in which the bank supplies credit to firms that are both creditworthy and meet its ethical requirements. On the analytical plane we will study the working of the two markets using a simple theoretical model inspired by the MTP approach in the Graziani (2003) framework. In its basic schema the monetary theory of production depicts the process of creation and distribution of income *via* a «circular sequence of monetary flows» (Realfonzo, 2003, p. 105). Within it, banks play an important role in starting the circuit of money because they create money in order to finance production of goods and services, whether they are consumption or investment goods. Obviously banks do not finance production if a firm has not made a prior request, so money is endogenous and demand-driven. The money anticipated by banks is called *initial finance* since it is created by banks and transferred to firms. The firms in turn pay workers in order to obtain the labor activity necessary for production. Accordingly, wages are anticipated by capital. Once workers receive wages, then, they spend a part of their income in the consumer goods market and save the rest, entering the financial market, depending on their propensity to consume and on the prior decision of firms about product composition. By the exchange of goods, workers transfer money to firms; this transfer qualifies money as *final finance* since it depicts the way consumption and investments are constituted. Moreover, once firms receive money from workers, they transfer money to banks in order to reimburse debts. Finally, once banks receive money from firms the banking debt is cleared and money is destroyed. On the technical plane once banks finance firms, they open deposits in favor of firms, so *loans make deposits*. Moreover, once deposits have been created (as a result of financing), banks

demand money reserves from the central bank in order to cover the same deposits in view of possible liquidity demands, so *deposits make reserves*.

#### 4.1 The Credit Supplies of the Socially Responsible Bank

Although the credit supply is affected by different factors we give preference to the role of mark-ups in the credit supply process according to the idea that the loan supply is a perfectly elastic curve at the loan rate fixed by the commercial banks on loans (see Moore, 1988; Fontana, 2009) and that the mark-up affects the efficacy of the monetary policy (see Lavoie, 1984, 2014; Moore, 1988; Fontana, 2009; Fontana & Setterfield, 2009).

Let us suppose now that there is a commercial bank which finances the production by firms. The bank moreover is a socially responsible bank in the sense that it judges the creditworthiness of firms both on the ethical and economic side. The bank aims to obtain profits and does not deny credit to firms that are creditworthy even if their activity does not match the bank's ethical values. On the other hand, the bank supports firms that are creditworthy and comply with its ethical values.

Let us also suppose that there are two firms who aim to obtain profits: firm A and firm B. We call firm A the 'neutral firm' and firm B the 'moral firm' in order to distinguish them according to their propensity to be socially responsible. The moral firm, in particular, shows several pro-social qualities –which include ethical codes, social relationships, social activities, positive production externalities and so on – that are assessed by the bank at the beginning of the production process by means of firms' social balance sheet. The other firm, instead, is neutral as regards the above pro-social qualities.

The bank in addition sets two loan rates: the first one  $i_A$  is set on the loan for the neutral firm and it is in line with the rate that prevails on the credit market. The second one  $i_B$  instead is set on the loan for the moral firm and it is lower than the first one, so  $i_A > i_B$ . The bank sets a lower loan rate for firm B in order to reward it for the effort to meet pro-social criteria. Notice that the bank sets the loan rates as a mark-up ( $\mu$ ) on the short-run nominal interest rate ( $i_{CB}$ ) fixed by the central bank on the money reserves demanded by the bank and necessary to cover the deposits created as a result of financing. The mark-up set by the bank on the loan of the neutral firm is fixed at the 'normal level', in the sense that it is equivalent to what appears on average in the credit market while the mark-up set on the loan to the moral firm is lower than the normal mark-up level. The difference between the mark-up set on the loan to the neutral firm and the mark-up set on the loan to the moral firm shows the reward that the bank gives to the moral firm's effort to meet pro-social requirements. It may be argued that, since the neutral firm does not possess pro-social qualities, it has to be penalized by the bank through an increase in the loan rate. This behaviour however, although fair from the ethical point of view, can be counterproductive on the economic plane because the penalty set on the neutral firm brings its loan rate above that prevailing on the market. Because of this, the neutral firm could move to another bank damaging the socially responsible bank in terms of interest and profits.

Let us therefore identify  $X$  as the value of the pro-social qualities that the bank attributes to the moral firm. We define  $x$  as the ratio between  $X$  and the moral firm's demand for credit expected by the bank. The pro-social qualities in terms of loan units expected by the bank are measured by  $x$ .

Formally the loan rate set by the bank on the loan to the neutral firm is equal to:

$$i_A = i_{CB}(1 + \mu^*) \quad (1)$$

Equation (1) states that the loan rate  $i_A$  set by the bank on the loan of the neutral firm depends positively on the short-run nominal interest rate set by the central bank  $i_{CB}$  and on the normal level of the mark-up  $\mu^*$ . Equation [1] also states that the bank is impartial towards the neutral firm. As seen above, in fact, the bank avoids penalizing the neutral firm so as to avoid a significant fall in the demand for credit. At the same time the bank cannot reward the neutral firm since it does not meet the pro-social criteria. The best way to deal with the neutral firm is therefore to set a loan rate following the current market conditions.

On the other hand, the bank is not neutral with firm B activity since the moral firm meets pro-social qualities. In this case the bank rewards the moral firm for its contribution to taking care of social needs. The loan rate  $i_B$  therefore can be formally written as follows:

$$i_B = i_{CB}(1 + \mu^* - ax) \quad (2)$$

Equation (2) states that the loan rate  $i_B$  set by the bank on the loan of the moral firm depends positively on the short-run nominal interest rate set by the central bank  $i_{CB}$  and on the normal level of mark-up. This mark-up however is adjusted according to the premium for the activity of the moral firm. The adjusted mark-up, in detail, is given by the difference between the normal level of the mark-up  $\mu^*$  and the premium (here indicated with  $ax$ )

for the activity of the moral firm. Note,  $a$  indicates the rate by which the bank aims to reward the pro-social activity of firm B. We name  $a$  the *award rate*. Equation [2] also states that the higher the pro-social qualities of the moral firm and the higher the social responsibility of the bank, the higher the premium in favour of the B-firm, and the lower the loan rate. At the same time, however, the premium  $ax$  has to enter the following range of sustainability:  $0 < ax \leq \mu^*$ . It has in fact to be higher than zero to ensure that  $i_B < i_A$ , to ensure therefore the bank is credible on the plane of promising to support the moral firm. The premium also has to be lower than (or at least equal to) the mark-up  $\mu^*$  to ensure that  $i_B$  does not fall below  $i_{CB}$  otherwise the bank would not be able to pay the central bank for the reserves necessary to cover the deposits created as a result of financing. Notice that, as anticipated above, the supply of loans is a perfectly elastic curve at a loan rate fixed by banks. In our case, therefore, two curves of loan supply emerge: the first one is the supply at the loan rate set for the neutral firm (see equation [1]), the other one is the supply at the loan rate set for the moral firm (see equation [2]). Moreover, two markets emerge: the first one (the neutral credit market) is the market in which the firm is neutral to the social claims while in the second market (the moral credit market) the firm is inclined to take social claims into account. The amount of financing, in turn, depends on the demand for it (see section 4.2).

#### 4.2 The Demand for Credit and the Equilibrium in the Credit Markets

Broadly speaking, the firm's demand for credit depends on the profitability of the production. A general function of the firm's demand for credit can therefore be written as follows:

$$L^D = A - bi \quad (3)$$

Where  $L^D$  is the demand for credit shown by firms for productive purposes.  $A$  is the autonomous component of the demand for credit while  $bi$  refers to the component depending on the loan rate. Notice that while component  $A$  has a positive effect on the demand for credit, the loan rate has a negative effect on the demand for credit because the higher the loan rate, the higher the production costs. In order to reduce costs, firms reduce the demand for credit, but as the credit is used to produce goods and services, the reduction of production causes *ceteris paribus* the reduction of revenues. Accordingly, the loan rate affects profits both on the cost and revenue side. On the analytical plane then  $b$  measures the variation of the demand for credit compared to the variation of the loan rate. Formally we have:

$$\frac{\partial L^D}{\partial i} = -b \quad (3.1)$$

In our perspective  $b$  is not exogenous because when the entrepreneur assesses the effects the loan rate produces on the demand for credit, he/she simultaneously takes into account the effects the loan rate produces on profits and the effects the demand for credit produces on profits. This is because any change in demand for credit has an impact both on revenues and costs. The comparison, therefore, between the demand for credit and the loan rate reflects the simultaneous comparison between profit and loan rate, on the one hand, and between loans and profits on the other. The effect of loan rate variation on profits must therefore be weighted by the effect of demand for credit variation on profits. However, since credit is a monetary capital anticipated by banks to firms, the economic result of production will be known afterwards, at the end of the production process. Accordingly, when the entrepreneurs enter the credit market they will have to make some conjectures on the profitability of production by assessing the expected profit. The components of the expected profit are given in turn by the expected revenues and production costs. While production costs are known *ex-ante*, revenues are known *ex-post*, so they have to be estimated in terms of expectations. The assessment of expected revenues, in turn, calls for the assessment of the capacity of the money capital (borrowed by firms) to generate revenues. For an amount of financing therefore the expected revenues will be given by the financing weighted by the expected turnover which, in turn, offers a good measure of the capital efficiency (at least in expected terms). On the other hand, the production costs are equal to firm's indebtedness. Given these arguments, the firm's demand for credit can be re-written considering firstly the following expected profit equation:

$$\Pi^e = TR^e - L^D(1 + i) \quad (4)$$

Where  $\Pi^e$  is the expected profit,  $TR^e$  the expected revenues and  $L^D(1 + i)$  the firm's debt (where  $L^D$  is the demand for credit and  $i$  the loan rate). As anticipated above, the expected revenues can be assessed as a multiple of the monetary capital anticipated by the bank, where the multiplier of the capital is the expected turnover. Therefore, using the symbol  $t^e$  to identify the expected turnover, equation (4) can be re-written as follows:

$$\Pi^e = t^e L^D - L^D(1 + i) \rightarrow \Pi^e = L^D[t^e - (1 + i)] \quad (4.1)$$

where  $t^e - (1 + i)$  is the expected profit rate. The expected profit rate is given by the expected turnover net of the unit of borrowed capital and unitary interest (the loan rate). A word of caution is important here: for the



demand for credit to be positive, the expected profit rate has to be positive otherwise the firm cannot enter the credit market due to lack of creditworthiness. Given equation [4.1] now, let us assess the effects the loan rate has on the expected profits (see [5]) and the effects that the loan has on the expected profit (see (6)):

$$\frac{\partial \pi^e}{\partial i} = -L^D \quad (5)$$

$$\frac{\partial \pi^e}{\partial L^D} = t^e - (1 + i) \quad (6)$$

Notice that the b-value (see (3.1)) can be seen concretely as derivative (5) multiplied by the inverse of derivative (6):

$$\frac{\partial L^D}{\partial i} = \frac{\partial \pi^e}{\partial i} * \frac{\partial L^D}{\partial \pi^e} \rightarrow -b = -\frac{L^D}{t^e - (1 + i)} \quad (7)$$

Substituting formula [7] into equation [3] the demand for credit becomes:

$$L^D = A - \frac{L^D i}{t^e - (1 + i)} \rightarrow L^D = A \left( 1 - \frac{i}{t^e - 1} \right) \quad (8)$$

Equation (8) is in conclusion the actual demand for credit. It states that the demand for credit is affected by three main variables: the autonomous component  $A$ , the loan rate  $i$  and the expected turnover  $t^e$ . In line with what is said above, the higher the autonomous component, the higher the demand for credit; moreover, the higher the loan rate, the higher the production costs, so the lower the demand for credit. Finally, the higher the expected turnover, the higher the demand for credit.

Given equation (8) the demand for credit of firm A, in other words, the demand for credit shown in the neutral credit market, is:

$$L_A^D = A_A \left( 1 - \frac{i_A}{t_A^e - 1} \right) \quad (8.1)$$

while the demand for credit of firm B, in other words, the demand for credit shown in the moral credit market, is:

$$L_B^D = A_B \left( 1 - \frac{i_B}{t_B^e - 1} \right) \quad (8.2)$$

Substituting equation [1] into [8.1] the neutral credit market is in equilibrium and the amount of financing  $L_A$  received by the neutral firm (firm A) is:

$$L_A = A_A \left( 1 - \frac{i_{CB}(1 + \mu^*)}{t_A^e - 1} \right) \quad (9)$$

On the other hand, substituting equation [2] into [8.2] the moral credit market is in equilibrium and the amount of financing  $L_B$  received by the moral firm (firm B) is:

$$L_B = A_B \left( 1 - \frac{i_{CB}(1 + \mu^* - ax)}{t_B^e - 1} \right) \quad (10)$$

The total amount of financing in fact is given by the sum of  $L_A$  and  $L_B$ . Notice that the existence of pro-social behaviors on the part of firms and banks allows the system to increase, *ceteris paribus*, the total amount of money and production. The socially responsible banks, in particular, allow the system to increase production by reducing financing costs while production itself is directed towards 'desired directions'. The loan rate fixed by socially responsible banks, in particular, acts as a sort of *normative monetary tool* since it is both an incentive to increase the demand for credit and inducement to modify the governance of firms and enlarge the social dimension of production.

## 5. Concluding Remarks

In recent years the ethics of responsibility has shaped the social responsibility of banks both on the management and regulatory plane. This is mainly as a result of the spread of the ethical and social implications of firms' activities accounted for in the social balance sheet. The paper has focused on the mechanism by which the social responsibility of banks can affect the working of the credit market. Using a monetary theory of production (or monetary circuit) approach, in particular, we have shown that banks can select the production planes on the base of ethical valuations and pro-social qualities, putting into effect a sort of discrimination on production and

differentiating the mark-ups and in turn the loan rate. This discrimination moreover leads the system to create two kinds of credit markets, which we have named the neutral credit market and the moral credit market according to the different capacity or willingness of firms to satisfy (or not) the ethical claims of banks.

## References

- Ansoff, I. (1965). *Corporate strategy*. New York: McGraw-Hill.
- Bazoli, G. (2008). Banche. Ragioni del mercato e responsabilità sociale. *Il sole 24 ore*, 14 agosto.
- Bellofiore, R. (1989). A monetary labor theory of value. *Review of Radical Political Economics*, 21(1-2), 1-26. <http://dx.doi.org/10.1177/048661348902100103>
- Bellofiore, R. (2004). As if its body were by love possessed. Abstract Labour and the Monetary Circuit: A Macro-Social Reading of Marx's Labour Theory of Value. In R. Arena & N. Salvadori (Eds.), *Money, Credit and the Role of the State. Essays in Honour of Augusto Graziani* (pp. 89-114). Aldershot Ashgate,
- Bellofiore, R. (2005). The monetary aspects of the capitalist process in the Marxian system: an investigation from the point of view of the theory of the monetary circuit. In F. Modeley (Ed.), *Marx's Theory of Money: Modern Appraisals*. Basingstoke, Palgrave/Macmillan.
- Bellofiore, R., & Realfonzo, R. (1997). Finance and the Labor Theory of Value. Toward a Macroeconomic Theory of Distribution from a Monetary Perspective. *International Journal of Political Economy*, 27(2), 97-118.
- Bellofiore, R., & Realfonzo, R. (2003). Money as finance and money as universal equivalent: Re-reading Marxian monetary theory. In L. P. Rochon & S. Rossi (Eds.), *Modern Theories of Money: The Nature and Role of Money in Capitalist Economies* (pp. 198-218). Cheltenham, UK and Northampton, MA, USA, Edward Elgar.
- Bellofiore, R., Forges Davanzati, G., & Realfonzo, R. (2000). Marx inside the Circuit. Discipline Device, Wage Bargaining and Unemployment in a Sequential Monetary Economy. *Review of Political Economy*, 12(4), 403-417. <http://dx.doi.org/10.1080/09538250050175109>
- Becchetti, L., Bruni, L., & Zamagni, S. (2014). *Microeconomia: Un testo di economia civile*. Bologna, Il Mulino.
- Birindelli, G., & Zadra. (2001). *Convegno ABI su Il modello di Redazione del bilancio sociale per il settore del credito*. Roma, 9 maggio.
- Bossone, B. (2001). Circuit theory of banking and finance. *Journal of Banking and Finance*, 25(5), 857-890. [http://dx.doi.org/10.1016/S0378-4266\(00\)00100-X](http://dx.doi.org/10.1016/S0378-4266(00)00100-X)
- Bowen, H. E. (1953). *Social responsibility of the businessman*. New York: Harper.
- Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons*, 39-47. [http://dx.doi.org/10.1016/00076813\(91\)90005-G](http://dx.doi.org/10.1016/00076813(91)90005-G)
- Comite, U. (2013). *Accountability e bilancio sociale nei tribunali*. Cedam, Padova.
- Dell'Atti, A. (1996). Sulla banca eccellente. *Bancaria Roma*, 9.
- Druker, P. F. (1943). *The future of industrial man: A conservative approach*. London: Heinemann.
- Fontana, G. (2009). *Money, Uncertainty and Time*. New York: Routledge.
- Fontana, G., & Setterfield, M. (2009). Macroeconomics, endogenous money and contemporary financial crisis: A teaching model. *International Journal of Pluralism and Economics Education*, 1(1/2), 130-147. <http://dx.doi.org/10.1504/IJPEE.2009.02897>
- Forges Davanzati, G., & Pacella, A. (2008). Minimum wage, credit rationing and unemployment in a monetary economy. *European Journal of Economic and Social Systems*, 21(2), 179-194.
- Forges Davanzati, G., & Pacella, A. (2010). Emulation, indebtedness and income distribution: A monetary theory of production approach Intervention. *European Journal of Economics and Economic Policies*, 7(1), 145-165.
- Forges Davanzati, G., & Tortorella Esposito, G. (2010). Low Wages, Private Indebtedness, and Crisis. A Monetary-Theory-of-Production Approach. *European Journal of Economic and Social Systems*, 23(1), 25-44.
- Forges Davanzati, G., & Pacella, A. (2013). The profits –investments puzzle: A Post Keynesian-Institutional interpretation. *Structural Change and Economic Dynamics*, 26, 1-13.

- Forges Davanzati, G., & Realfonzo, R. (2009). Money, capital turnover and the leisure class: Thorste in Veblen's tips for MTP models. In J. F. Ponsot & S. Rossi (Eds.), *The Political Economy of Monetary Circuits*. London: Palgrave.
- Forges Davanzati, G., Pacella, A., & Patalano, R. (2015). The Keynesian Features of Graziani's Monetary Theory of Production and Some Unresolved Issues. *Review of Political Economy*, 27(4), 565-584. <http://dx.doi.org/10.1080/09538259.2015.1082710>
- Friedman, M. (1970). The Social Responsibility of Business is to Increase its Profits. *The New York Times Magazine*.
- Freeman, E. R. (1984). *Strategic management: A stakeholder approach*. Boston: Pitman.
- Freeman, E. R., Rusconi, G., Dorigatti, M. (2007). *Teoria degli Stakeholder*. FrancoAngeli, Milano.
- Fumagalli, A., & Lucarelli, S. (2008). Money and technological change. The role of financing in the process of evolution: An introduction. *The European Journal of Economic and Social Systems*, 21(2), 151-163.
- Graziani, A. (1984). Moneta senza crisi. *Studi Economici*, 24, 3-37.
- Graziani, A. (1988). Le teorie del circuito e la 'Teoria generale' di Keynes. In M. Messori (Ed.), *Moneta e produzione*. Torino, Einaudi.
- Graziani, A. (1994). *La teoria monetaria della produzione*. Arezzo, Banca Popolare dell'Etruria e del Lazio.
- Graziani, A. (1996). Money as purchasing power and money as a stock of wealth in Keynesian economic thought. In G. Deleplace & E. Nell (Eds.), *Money in Motion: The Post-Keynesian and Circulation Approaches*. New York: Macmillan.
- Graziani, A. (2003). *The monetary theory of production*. Cambridge: Cambridge University Press.
- Lavoie, M. (1984). The endogenous credit flow and the Post Keynesian theory of money. *Journal of Economic Issues*, 18(3), 771-797.
- Lavoie, M. (2014). *Post-Keynesian Economics: New Foundations*, Edward Elgar. Cheltenham, UK. <http://dx.doi.org/10.1080/00213624.1984.11504274>
- Marziantonio, R., & Tagliante, F. (2003). (in collaborazione con Eticanet). *Il B.S. nella gestione d'impresa responsabile*. Maggioli.
- Messori, M., & Zazzaro, A. (2005). Single-period analysis: Financial markets, firms' failure and closure of the monetary circuit. In G. Fontana & R. Realfonzo (Eds.), *The monetary theory of production* (pp. 111-123). New York: Palgrave Macmillan.
- Moore, B. J. (1988). *Horizontalists and Verticalists. The Macroeconomics of Credit Money*. UK, Cambridge: Cambridge University Press.
- Oliva, N. (2015). Management Report Ex. Art. 2428 c.c. in Local Authority Companies. *International Business Research*, 8(12), 36-50. <http://dx.doi.org/10.5539/ibr.v8n12p36>
- Oliva, N., & Pacella, A. (2016). Does Firms' Social Responsibility Counteract Some Critical Effects of Labor Market Flexibility? *Journal of Management and Sustainability*, 6(1), 109-120. <http://dx.doi.org/10.5539/jms.v6n1p109>
- Palley, T. I. (1996). Endogenous Money and the Business Cycle. *Journal of Economics*, 65(2), 133-149.
- Parguez, A. (2010). Lies and Truth About the Financial Crisis in the Eurozone. From A Banking Crisis to a Currency Crisis: The Veil of a Dramatic Structural Crisis. *International Journal of Political Economy*, 39(4), 31-55.
- Porter, M. E., & Kramer, M. R. (2011). Creating shared value: Redefining capitalism and the role of the corporation in society. *Harvard Business Review*, 89.
- Rhenman, E. (1968). *Industrial democracy and industrial management*. Publication limited, Tavistock.
- Rochon, L. P. (2006). Endogenous Money, Central Banks and the Banking System: Basil Moore and the Supply of Money. In M. Setterfield (Ed.), *Complexity, Endogenous Money and Macroeconomic Theory: Essays in Honour of Basil J. Moore*. Cheltenham: Edward Elgar.
- Rochon, L. P., & Rossi, S. (2007). Central Banking and Post-Keynesian Economics. *Review of Political Economy*, 19(4), 539-554.

- Rossi, G. (2003). *Il Conflitto epidemico*. Adelphi, Milano.
- Sella, M. (2003). Responsabilità sociale: La nuova frontiera dell'impresa bancaria. *Bancaria*, 2.
- Sen, A. (2002). *Etica ed Economia*. La terza Editore, Roma-Bari, 2002.
- Sparkes, R. (2001). Ethical Investment: whose Ethics, which Investment. *Business Ethics: An European Review*, 10, 194-205.
- Tanno, A. (2008). Banche e responsabilità sociale. *Rivista Consumatori, diritti e mercato*, 3.

### Notes

- Note 1. For a detailed analysis of features of social responsibility of firms, type of social firms and effects of social responsibility of firms see Becchetti et al. (2014).
- Note 2. This problem is known as the paradox of profits. For the solution of the paradox see, among others, Bellofiore and Realfonzo (1997), Zezza (2004), Messori and Zazzaro (2005), Forges Davanzati and Pacella (2008), Forges Davanzati and Pacella (2010), Forges Davanzati and Tortorella (2010).
- Note 3. For a critical reconstruction of the circuitist debate on the bank's behavior see Forges Davanzati et al. (2015).
- Note 4. Amongst the various positions regarding institutional changes within the banking sector see, among others Bazoli (2008).
- Note 5. Amartya Sen in an interview available on the website [www.ilsole24ore.it] November 2000. See also Marziantonio and Tagliante (2003), Oliva (2015).
- Note 6. Pioneering works are those by Druker (1943), Bowen (1953), Ansoff (1965) and Rhenman (1968).
- Note 7. Sella's opening lecture at the Conference on "Finanza e responsabilità sociale", Milano 10h February 2003.
- Note 8. I.S.V.I., Istituto per i Valori D'Impresa – DOXA – Primo Rapporto sulla Responsabilità Sociale d'Impresa in Italia 2002 pag.119 e segg. [www.ISVI.Org].
- Note 9. *Etica e responsabilità sociale nella finanza bancaria*, NOMISMA Foundation, Third sector for the development of ethical economics, October 2003.

### Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/3.0/>).