

Functional and structural complementarities of banks and microbanks in LDCs

16 April 2007

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Abstract: This paper draws first on the concept of monetary payments to explain the functional complementarity of microfinance institutions (microbanks) and official banks (banks) in less developed countries (LDCs). The second objective is to show that part of the unspent income generated in the production process in LDCs is held after the payment operation in the form of deposit accounts with microbanks and banks. The fraction held with microbanks, when not used for financing consumer spending and income-generating activities, is often invested in a portfolio of deposit accounts with banks. Microbanks are structurally complementary to banks. They are *de facto super deposit accounts* for households which do not have access to banks' financial services. In functional views, and taking into account their role in funding credit-worthy microfirms' production costs, microbanks enable the generation of monetary income. They are *de facto banks* and are functionally complementary to banks in LDCs.

Jel Classification: E42, E44, O11, O17

Keywords: Banks, microbanks, money creation, complementarity, Less Developed Countries.

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1. Introduction

The growing impact of microfinance institutions (MFIs) on developing economies in recent years has come in for academic scrutiny. Many recent studies emphasize how effective MFIs are at providing finance for micro-generated income activities, at promoting economic development, and at improving living standards in developing countries (Lapenu et al., 2004).

All economists agree that MFIs are intermediaries that finance income-generating activities of small firms with no access to the financial services of commercial banks (Burkett, 1989; Besley, Coate and Loury, 1993, 1994; Besley, 1995; Besley and Levenson, 1996; Ghatak, 1999; Morduch, 1999, 2000; Lelart, 2000a, 2000b, 2002, 2005a, 2005b; Doliguez, 2002; De Aghion and Morduch, 2005; Aniket, 2005; Basu, Blavy and Youlek, 2004; Barboza and Bareto, 2006). Accordingly, within the context of policy reform, some kind of arrangement is required to enable dynamic links to be forged between MFIs and banks (Germidis, Meghir and Kessler, 1991; Gladston, 1994; Seibel, 1996; Varghese, 2005). For all these reasons support for MFIs from non-governmental organizations (NGOs) is welcome (Hardy et al., 2003).

Generally, the monetary and financial structure of LDCs has been the subject of a specific analysis for about 30 years. The first attempts to apprehend the monetary and financial characteristics of LDCs were made by McKinnon (1973)¹ and Shaw (1973). For all their notoriety, these contributions failed to make clear what the monetary and financial world in LDCs is really like. The effects of financial reforms inspired by their arguments fell short of expectations in most developing countries and especially in West Africa (Lambert and Condé, 2002).

It is from this critical standpoint that the ‘neoliberalist’ analysis (Taylor, 1983; Wijnbergen, 1983; Buffie, 1984; Lim, 1987; Betty and Hong-Bum, 1992) seems to provide an alternative to the ‘neoliberal’ hypothesis and to form the basis for an analytical framework encompassing the official banks and MFIs within a structural concept of money and finance and their interconnections with the production process in LDCs.

¹ See also McKinnon, 1993.

Two main questions are examined in this paper. How can we interpret, in a new perspective, the function of MFIs beyond the simple role of financial intermediaries in which they are generally cast? What are the repercussions of such a re-interpretation for the analysis of the monetary and financial systems in LDCs?

These two questions are answered here in three steps. First, the basic analysis of complementarity or links between MFIs and official banks is reviewed from a structural or institutional perspective. Second, the concept of payment and its connection with the money-issuing process is explained as a starting point for analysing the monetary function of MFIs. And third, the monetary function of MFIs in LDCs is demonstrated analytically.

2. From institutional distinction to structural complementarity of MFIs and official banks in LDCs

Close examination of the contemporary economies of LDCs reveals that MFIs are vectors for transferring savings between saver-lenders and borrower-spenders who are denied access to the financial services of official banks. Moreover, MFIs often hold deposit accounts with official banks where they place their funds when they are not required for financing operations. MFIs have a financial function and are structurally complementary to official banks, despite being institutionally distinct entities. What is it that distinguishes MFIs from official banks in LDCs in structural terms?

2.1. The institutional distinction of MFIs and official banks

It is true that MFIs engage in microfunding productive activities by using savings (the unspent part of households' income in the form of portfolios of deposit accounts held with them). However, does this differ in substance from the provision of credit by official banks to firms to fund their production costs? The answer to this question is tied in with a specific understanding of the issuing of money. But before addressing this question and its connection with the interpretation of intermediation by MFIs, let us first consider what structurally distinguishes MFIs from official banks in LDCs.

2.1.1. Official banking institutions in LDCs

The official banking structure in LDCs generally and in West Africa² in particular consists of a central bank, trade banks, development banks, savings banks, insurance companies and postal banks. The official monetary and financial system is dominated by trade banks and development banks, with a principal structure which is characterized by substantial involvement by the state and by foreign banking firms, which are often the majority shareholders. The financial services of these official banks are largely directed at government-owned companies and at certain large private corporations. Compared with MFIs operations involving households and microfirms, official banks engage in a small proportion of credit operations (Nissanke, 2001).

2.1.2. MFIs in LDCs

MFIs are small organized units or self-help groups that are institutionalized to varying degrees, specializing in credit operations for microfirms and low-income households. They are mostly cooperative type organizations, credit associations backed by NGOs, and self-help groups such as rotating saving and credit associations (ROSCAs). These organizations are generally characterized as ‘informal’ or ‘semi-formal’ because they are not subject to the legal requirements of a financial institution and not constrained by reserve requirements. This same line of activity includes individual lenders and deposit collectors. These private organizations or private lenders respond to the financial requirements of individual customers who are generally excluded from the official banking structure. They offer basic financial services and use money saved with them to fund loans (Lafourcade et al., 2005). The loans are granted to microfirms to meet their production costs and to households for consumer spending. Several other organizations such as commercial banks, specific controlled financial institutions and NGOs are also involved in the microfinance sector in LDCs generally and more specifically in WAEMU countries³ (Lelart, 2005). Apart from this institutional or structural basis

²I will often take this geographical area as an example of LDCs.

³ The West African Economic and Monetary Union. This union comprises countries like Benin, Burkina Faso, Côte d’Ivoire, Niger, Mali, Senegal and Togo. Guinea Bissau is also a member but as it has joined only recently data are not available and so it is omitted from this analysis.

for the distinction between MFIs and official banks in LDCs, a distinction is also drawn generally between banks and ‘non-bank intermediaries’ in analytical views.

2.1.3. The institutional distinction between banking institutions and other financial intermediaries in analytical views

Analysis of the distinction between official banks and other financial intermediaries (e.g. MFIs in LDCs) has a long history. In analysing the consequences of the increasing number of financial intermediaries in the process of economic development, Gurley and Shaw (1960) concentrate on the preponderant role of ‘non-monetary’ or ‘non-bank’ financial intermediaries. They show that non-bank intermediaries create non-monetary indirect ‘debt’ in the form of financial claims whereas banking intermediaries create monetary indirect ‘debts’, and all in a context of portfolio diversification and a competitive market. When official banking institutions create an indirect ‘debt’ on themselves, the authors speak about monetary creation, whereas, ‘non-bank’ financial institutions create an indirect debt which is not monetary in nature. The ‘non-bank’ intermediaries do not create money in their credit-granting activity because they are not subject to reserve requirements or a specified interest rate administered by the monetary authorities (Gurley and Shaw, 1960, p. 198–199).

This perspective⁴ was characterized in the economic literature as the ‘new view’ and is defended by McKinley (1957), Shelby (1958), Tobin (1967), Black (1970, 1975), Fama (1980) and many others. They argue that in a constrained (by administrative control) or unconstrained monetary and financial environment, there are no relevant differences between banking institutions and other portfolio asset managers. Bank deposit accounts and other portfolios of assets are perfectly competitive (Fama, 1975, p. 325, 1980, p. 41). In such a system, banks like other financial intermediaries are merely account managers channelling wealth between various economic units in a double-entry book-keeping system characterized by debits and credits (Fama, 1980, p. 42). The banks’ role, like that of the other portfolio managers, is primarily passive in the sense that it consists in bringing together saver-lenders and borrower-spenders (Fama, 1980, p. 46).

⁴It is not the purpose here to return to the debate between ‘new view’ and ‘old view’ as in Aschheim, 1959, pp. 59–71; Guttentag and Lindsay, 1968. See on this subject, Selgin, 1986, pp: 80–86.

In a monetary and financial environment where banking intermediaries are subject to reserve requirements⁵—which are considered here as a direct tax on bank deposit returns because the reserve requirement lowers the return on deposits by the fraction of deposits held as reserve requirement—there may be a difference between banks and other portfolio managers (Fama, 1980, p. 47). Banks may choose not to offer account services management in addition to portfolio management. Even so they remain pure intermediaries since, if they are competitive, any profits they make from account services management offset or minimize the cost of constituting the required reserves. In the absence of any other forms of restriction, there is nothing to differentiate bank deposits from the asset portfolios held by other financial intermediaries. Bank deposits and asset portfolios are perfect substitutes with the same risks attributed to them. The upshot of this is that banking institutions are perfectly comparable in their function to other asset portfolio managers. Banks remain passive intermediaries, their operations having no effect on the activity of the economic real sector (Fama, 1980, p. 48).

Tobin (1967) argues similarly that even banks in their credit-attribution activities may be subject to a double regulation in terms of reserve requirement and interest-rate control, and in this respect may be less competitive than other asset portfolio managers, they are not penalized by the reserve requirement. Tobin claims that since banks may have the capacity to transform ordinary portfolios of assets into specific ones in the form of deposits or to offer deposits that are less voracious in terms of reserve requirements, banks can be perfectly competitive with the other forms of portfolio managers. In this respect there is no functional distinction between banks and non-bank institutions. However, although there are no functional differences between banking institutions and other financial intermediaries, the reserve requirement and banking interest-rate ceiling are a distinguishing feature in

⁵Reserve requirements are regarded here as a direct tax on the profitability of bank deposits because they reduce the profitability of deposits by the same amount as should be generated by the deposits held as reserves by the central bank. Generally, the reserve requirement aims to force banking institution to hold, in the form of central money, a fraction of the items recorded as balance sheet liabilities and/or assets. In general, reserves are required on banks' deposit accounts and/or on credit operations. In the euro currency area, these reserves are about 2% on the liability components of commercial banks, and they are fully remunerated. In developing countries such as the WAEMU, reserve requirements are applicable to all official commercial banks and financial institutions that grant credit. MFIs have no reserve constraints with central banks. The reserve base ratio is for deposits and short-term credits. The reserve ratio changes over time in WAEMU area. This ratio was 1.5% for commercial banks at the beginning of the WAEMU experiment and reached 9% by the year 2000. The reserve requirement is not remunerated in WAEMU countries. This information can be found for euro zone currency area on www.ecb.int and for WAEMU, on www.bceao.int.

institutional terms. Even so, this distinction has nothing to do with the monetary nature of banking liability (Tobin, 1967, p. 10).

Apart from this explanation of there being no relevant distinction between banks and non-banks in functional terms, some commentators argue that the non-uniqueness of banks' functions emphasizes that a monetary and financial system in which banks alone are subject to reserve requirements and interest-rate ceilings cannot be efficient (Tobin and Brainard, 1963, p. 392).

A similar idea is taken up by the 'nestructuralists' (Taylor, 1983; Wijnbergen, 1983) in their critical analysis of the financial liberalization hypothesis (Shaw, 1973; McKinnon, 1973, 1993). In their view, the MFI sector, which is known as an informal financial market or unorganized money market because it escapes the reserve requirement, is more competitive than the official banking intermediaries in their credit-granting activities in a context of financial liberalization. Generally, the reserve requirement corresponds to a percentage of bank deposits being held as deposits with the central bank. This is designed to reduce the money-creating capacity of commercial banks and to guarantee their solvency. If informal financial institutions (e.g. non-bank intermediaries or MFIs) are assumed to be more competitive than official banking institutions because they escape the reserve requirement, is it not precisely because they have a function similar to that of official banking institutions?

The difficulty of 'nestructuralist' analysis in elucidating this insight lies in the fact that there remains a confusion between the monetary and financial aspects of the banking function. Indeed, when official banking institutions or MFIs finance households' consumer spending, they engage in credit-granting operations of a purely financial character. This kind of banking activity does not give rise to the issue of new money. Consequently, assuming that only new-money issue is subject to any reserve requirement, credit operations of a financial nature cannot be constrained by the reserve ratio. There cannot then be any imperfect competition between official banking institutions and MFIs. By contrast, when official banks and MFIs grant loans to finance the productive activities of firms and microfirms, does this not involve credit operations leading to the generation of monetary income? At this stage of the analysis, it can be seen that MFIs have a financial function and are therefore structurally complementary to official banks in LDCs. This is discussed in the next subsection.

2.2. Financial intermediation by MFIs and their structural complementarity with official banks

Functional and structural complementarities between MFIs, generally described as ‘informal’ or ‘semi-formal’ institutions, and official banks have attracted very little attention in the literature of money and finance in LDCs. Those analyses which do apprehend this aspect of monetary and financial systems in LDCs put forward the existence of vertical and horizontal links between MFIs and official banks (Bell, 1990; Straub, 2005; Varghese, 2005). Such complementarity between MFIs and official banks can be understood in structural terms.

Bell (1990) analysed horizontal linkages between credit channels in MFIs and banking institutions in LDCs in a study of credit markets in India. MFI credit market channels and official banking institutions are said to be horizontally linked because the financial activities of money lenders in the MFI sector are sometimes dependent on loans from official banking institutions.

MFI and official bank credit channels are horizontally linked because the activities of money lenders in the MFI sector may compete with banks’ activities. It is assumed that borrowers tend to switch from one source of loans to the other. In other words, the argument goes, economic units initially try to secure bank loans and, if they fail to do so, they resort to the MFI loans sector. Economic units may also have opportunities to hold loan agreements with MFIs and with official banks simultaneously (Bloise and Reichlin, 2005).

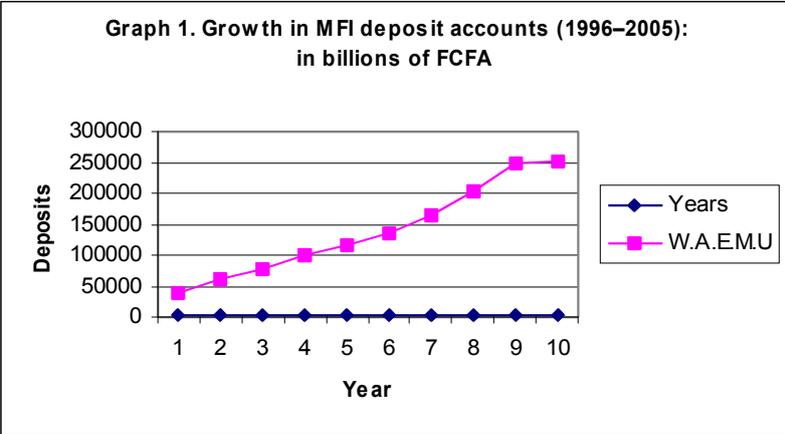
The same interactions between banks and microbanks are valid in West African countries. The situation in West Africa is not readily comparable with the situation Bell (1990) describes in India. However, in West Africa, official bank loans to MFIs are carried out within a more organized framework where several MFIs (village banks) are organized as a mutual insurance company or self-help group so as to be able to negotiate official bank loans as in Burkina Faso for example (McKnolly and Kevane, 2002). Similar situations are also observed today in India within the framework of the vast program launched by the Indian government to facilitate access to external sources of credit for

self-help groups (Bansal, 2003). In addition to the horizontal relations that may exist between MFIs and official banks, the author also emphasizes vertical interaction between these institutions in LDCs.

Credit channels between official banks and MFIs are vertically linked because of the extension of funds coming from the formal or official banking institutions and redirected towards small contractors via informal lenders operating in the MFI sector. It is supposed, in this perspective, that informal lenders borrow funds from the institutional sector of banks and lend them to small borrowers who command a high degree of trust or who are considered to be legitimate or creditworthy. The idea is that there is a hierarchical contract based on the fact that rural lenders are better able than the banks to hold reliable information about borrowers. The informal lenders in the microbanking sector thus provide a means for the banking sector to retrieve information about lenders who are considered to be *a priori* non-creditworthy (Besley, 1995; Fuentes, 1996; Floro and Ray, 1997).

In this perspective, such links that reinforce complementarity instead of promoting competition are a necessary precondition for a properly functioning banking system in LDCs (Varghese, 2005).

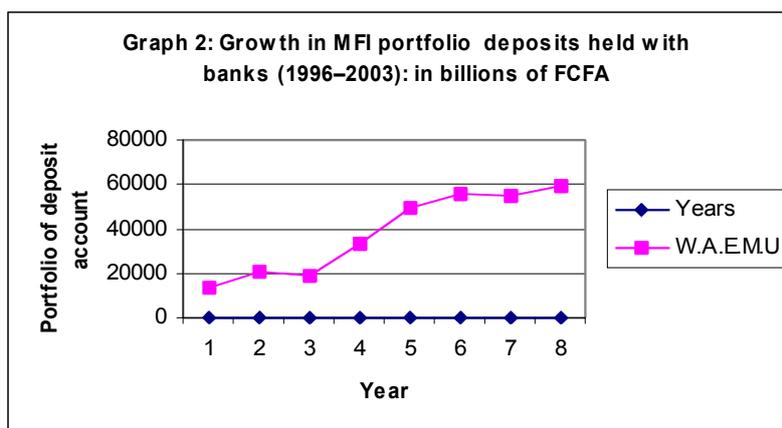
We can also add to Bell’s (1990) analysis that the vertical relation between MFIs and official banks is not all one-way traffic. MFIs do not merely borrow from official banking institutions and lend to microfirms. They also collect deposits from surplus economic units, which they deposit anew in a deposit account held with official banking institutions. Graph 1 illustrates the structure of deposits collected in the last 10 years in WAEMU countries:



Data source: Statistics on MFIs (2002–2005) and monographs on MFIs (various publications on the monographs 1998–2003). Data available on www.bceao.int

Graph 1 shows that deposits with MFIs increased over a 10 year-period from approximately 38 billion CFA francs (FCFA)⁶ in 1996 to 250 billion FCFA in 2005. The deposits were used primarily for financing microfirms' production costs. Thus accumulated saving is the most significant source of funding for microfirms in WAEMU countries.

When the deposits collected are not needed for financing households' consumer spending or for microfirms' production costs, they are generally deposited in the form of portfolio deposit accounts with official banks (see graph 2 below for the growth of MFI portfolio accounts with official banks).



Data source: Statistics on the MFIs (2002–2005) and monographs on MFIs (various publications on the monographs 1998–2003). Data available on www.bceao.int

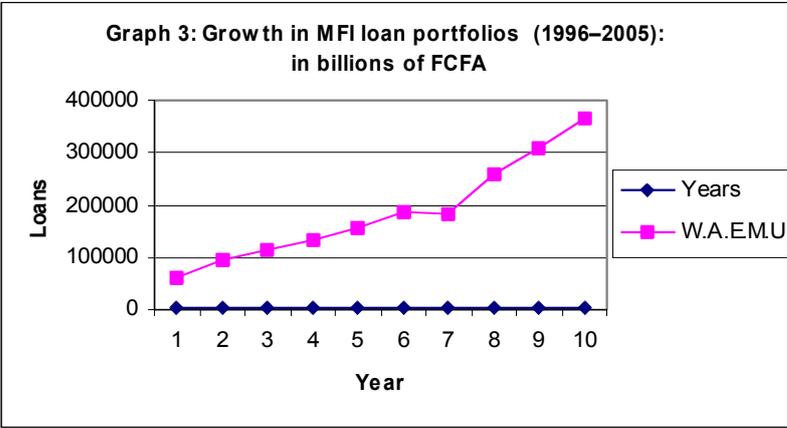
MFIs deposits with banks increased from some 13 billion FCFA in 1996 to approximately 59 billion in 2003. The official banks do indeed refinance the MFIs within their credit-granting limits. MFIs deposit accounts with banks can be perceived as free reserves which are used for refinancing banks, much as happens with commercial banks'

⁶CFA franc (FCFA) is the local currency used by the African and Caribbean French community. It is the currency used by the WAEMU countries in particular. The FCFA is pegged to the Euro. The official value of one euro in is 695.7 FCFA.

reserve requirements. The reserves held by MFIs with banks are unencumbered and can be used as guarantees for refinancing as and when required. Three main points derive from these considerations.

a. MFIs provide deposit accounts for economic agents who do not have access to an official banking system. They currently represent in structural terms *'de facto super deposit accounts'* for economic units that are denied access to deposit accounts with official banks. They are structurally or institutionally complementary to official banking institutions in LDCs.

b. Through their credit operations, MFIs finance microfirms' production costs. They also finance households' consumer spending. This latter form of expenditure is not of significant analytical interest in this paper. We consider, therefore, that when MFIs do not deposit the funds collected with official banks, they lend them to microfirms for productive purposes.



Data source: Statistics on MFIs (2002–2005) and monographs on MFIs (various publications on the monographs 1998–2003). Data available on www.bceao.int

c. MFIs can also borrow funds from official banking institutions; they spend them, however, in funding microfirms' production costs.

These last two points are of great importance in this analysis. MFIs finance income-generating activities which are necessarily monetary in character. Two lines of research make it possible to prove this proposal in analytical terms.

The first is that of Gurley and Shaw (1955, 1960). They proposed an iconoclastic analysis (specifically in chapter 6 of *Money in a Theory of Finance*) emphasizing the role played by ‘non-banking’ or ‘non-monetary’ financial intermediaries in their credit activity. In their explanation, Gurley and Shaw insisted on the creation of indirect debts by any type of financial intermediaries. When they are official banking institutions, the nature of the ‘indirect debt’ is monetary whereas if the debt is created by non-banking financial institutions (e.g. MFIs in contemporary economies of LDCs), it is simply an indirect debt of a non-monetary character. However, understanding of the nature of the debt remains unclear. Indirect debts are issued, the argument goes, by the financial institutions on themselves. What the analysis fails to specify, but that can be inferred, is that all ‘debt’ issued necessarily has a ‘credit’ counterpart. This detail can be understood thanks to a second line of research emphasizing the concept of payment to explain the monetary nature of the banking function (Schmitt, 1984; Cencini, 2001, 2005). If one takes into account this last consideration, money creation is not solely an act of issuing debt, but it is about the simultaneous issuing of both ‘debt’ and ‘credit’. By tweaking Gurley and Shaw’s hypothesis in this way, then, this second line of research provides a new interpretation of the function of banks and microbanks in LDCs.

This new view means quite simply that banks are not the only agents involved in issuing ‘credit–debt’. Issuing ‘credit–debt’ or ‘assets–liabilities’ is a joint and instantaneous action performed by banking institutions, the production sector including producing services, and firms which draw up their production plans. The intermediation of financial institutions occurs between the firm’s liabilities and the receivables of the producing services, these economic agents being naturally interconnected by a payment operation. The operation which causes the simultaneous ‘asset–liability’ issue takes on the nature of a money-creation operation. In practice ‘asset–liability’ issue is invariably related to income production, and so to output (Cencini, 2001, p. 86).

The relation just explained, connecting banks and the production sector, does not analytically exclude connections between MFIs and microfirms in LDCs. This means that MFIs, like banks, bring

about ‘credit–debt’ or ‘assets–liabilities’ issue when they finance microfirms’ production costs. If the ‘credit–debt’ issue by official banks is a form of money creation, is the initiation of the same operation by MFIs not also of the nature of money issue?

3. Towards the conception of the MFI monetary function

The monetary and financial systems in LDCs are characterized by the coexistence of an official financial system and an unofficial financial system. The official banking institutions issue money in their credit operations to finance firms’ production costs whereas MFIs, although they engage in similar operations, do not issue money (Lelart, 2002, 2005b; Nsabimana, 2004).

3.1. Conception of MFIs as pure financial intermediaries

Nsabimana (2004, p. 45) and Lelart (2002, 2005b) argue that MFIs do not create money in their intermediation function in the sense that they need to collect savings before making loans. *A contrario*, official banks do not need to collect savings before granting credit. Official banks can create liquidity and lend it to economic units, (Lelart, 2002, p. 15, 2005b, p. 62). Nevertheless, Lelart argues that sometimes MFIs such as ROSCAs can fund more than they receive and so truly earn their name of ‘moving banks’ (Lelart, 2005b, p. 13).

If it is true that microfinance joined informal finance and that their savings operations are of the same nature as bank operations, then the distinction between banks and MFIs cannot be functional. If ROSCAs can lend out more funds than they receive in deposits, does that not mean that in their function of ‘village bankers’ they create something in much the same way as official banks do?

Let us assume that ROSCAs can pay out more in loans than they receive in savings. Let us consider that the funding is employed in financing microfirms’ production costs. Would this not mean that MFIs, in their credit-granting activities, cause investment surpluses in excess of savings in the sense that new money income is generated and consequently that they create a specific money?

From the same perspective as Lelart, Nsabimana and the proponents of the unique character of the banking function, Bossone (2001) asserts that banks are special in the sense that they operate upstream in the production circuit and do not perform intermediation on existing liquidity but add liquidity to the system whenever they finance firms' production cost, whereas non-bank financial intermediaries do not. The non-banks only bring together saver-lenders and borrower-spenders without adding anything new to the financing of the production process (Bossone, 2001, p. 869–870).⁷

According to Bossone, following Lelart and Nsabimana, banks create money as financial intermediaries whereas non-banking institutions (MFIs in contemporary economies of LDCs) are merely financial intermediaries that do not create money. The only difference between Bossone's analysis and that of the others is that banks (e.g. official banking institutions in developing countries) are upstream in the production circuit and allow it to start up whereas the non-banking institutions are downstream in the circuit, and allow it to reach completion. However, Bossone takes care to specify a little further in the analysis that this distinction between banks and non-banking intermediaries would be irrelevant in a financial market economy (Bossone, 2001, p. 870).

Bossone claims that in an economy with a hierarchical structure where banks are at the top of production process issuing the 'finance' required to start up the production circuit process (funding firms' production costs) at a time (t) , 'non-banking' financial intermediaries intervene at a time $(t+1)$ by funding investment, i.e. they enable firms to collect money spent in financing production costs and so to balance their short-term debtor position with respect to official banks.

In a financial market economy, however, according to Bossone, the intermediary functions of banks and non-banks are of an identical nature (Bossone, 2001, p. 869–870). Although, the author does not mention it, this idea implies that both kinds of financial intermediaries, by funding firms' productive expenditure, can create money.

I have already said that money creation is not confined to the actions of banks alone. Such a conception of money creation is not exclusive to MFIs operations in LDCs. In practice, the financial

⁷A similar idea on the specific role of banks in creating 'finance' without using preliminary resources, contrary to other financial intermediaries, is discussed by Davidson (1965, 1967, 1986, 2002).

intermediary (official banks or MFIs) receives unspent income from the initial lender and passes it on to the final borrower. As an intermediary between saver-lenders and borrower-spenders, the financial institution carries out an operation originating with the saver-lenders. The conclusion is true, whether the financial institution is defined by its person or its function; in both cases, it is located at the level of the lenders and the borrowers, agents with which it is in financial relation (Schmitt, 1984, p. 409).

As Gurley and Shaw (1960) attempted to get across, along with other contemporary economists, money is created by the issuing of credit. It is conceptualized as being receivables or dues from banks. Money so defined is recorded in the liabilities of the banking institution. There is no ambiguity in economists' thinking on this point. By contrast, double-entry book-keeping, by its principle, requires the banks' liabilities to be balanced by its assets. It is precisely at this stage that all the difficulties and misunderstandings arise. Economists are not of one mind when it comes to the contents of credit. Credit may include gold, currencies, loans to external economics units, loans to government, loans to firms, loans to households, fixed assets, inventories and many other real financial assets.

The source of this confusion is, itself, related to analytical confusion of two functions within the same banking institution, which enables it both to issue money and to operate as a financial intermediary by allocating credit between saver-lenders and borrower-spenders. However, the imprecise nature of money creation in the economy is not specific to Bossone's analysis. It is part of a historical debate about the conceptual analysis of money creation.

3.2. Can banks create positive purchasing power?

Historically, two schools are distinguished in the conceptual analysis of the money creation operation. A first thesis holds that, in the money-creation process, credit and debt arise simultaneously as a result of the banking intermediation operation, debt being the counterpart of credit and vice versa.

The second thesis holds that banks' debt defines positive money (or positive purchasing power) and that the money created at a time (t) will be destroyed only at a time $(t+1)$. This school

can be related to Schumpeter's (1911/1983) thesis on the role of credit as a positive purchasing power advanced by the banking system to the innovating entrepreneur who applies for it. The purchasing power at the entrepreneurs disposal is not based on any existing source of funds. The ideas here are obvious: banks should have the power to create a positive asset in the sense that money is an asset.

Similar ideas are found today in post-Keynesian economic literature. This analytical framework applied to the function of non-bank intermediaries is developed by Bossone.⁸

The first thesis contributes to the area of research opened up by Gurley and Shaw (1955, 1960) on a relevant analysis of monetary and financial aspects in contemporary LDCs economies.

Money creation begins with lenders, the producing service whose remuneration is its keystone. In other words, money can appear only in an operation involving not only banks but also lenders (income-holding producing services) and borrowers (firms or microfirms that organize production).

We can say, at this point, that bank intermediation is based on the connection in payment between the producing services and firms or microfirms. Since banking intermediation is interpreted as a money-creation operation, the money issue can be said to be effected via workers' remuneration or via the payment process.

3.3. The payment operation as an inductive movement of money creation

In order to understand how money is created in the payment operation, let us reconsider the relevance of the Gurley–Shaw analysis (1955, 1960).

3.3.1. Re-examining the Gurley–Shaw hypothesis

Gurley and Shaw (1955, 1960) explain that the banking institution creates positive money, in the form of assets, that is held by economic units with excess capacity in terms of debt intermediation. Money is seen here as both an asset (of saver-lenders held by a banking institution) and a liability (debt of a banking institution with respect to saver-lenders). The debt, in this respect, is that created by banks as a commitment on themselves. However, can the banking institution create an obligation on

⁸See Bossone, 2001. See also Moore (1988, p. 295) for the same analytical distinction between banks and non-bank intermediaries.

itself without that obligation being offset instantaneously by an opposing commitment? A simple example provides an answer.

Suppose a banking institution in an LDC (a WAEMU country) allocates a credit of $xFCFA$ to a firm to pay wages. The bank accounts can be recorded as below.

Balance sheet 1.

Bank			
<i>Liability</i>		<i>Asset</i>	
<i>P.S</i>	$xFCFA$	<i>Firm</i>	$xFCFA$

We have *Balance sheet 1* above for the banking institution account after its credit operation. The bank account shows that firms are structurally in debt whereas producing services (P.S.) are structurally creditors. In practice, the banking institution records the producing services as holders of the deposit accounts as creditors for $xFCFA$; at the same time firms are recorded as debtors for the same amount.

In the Gurley–Shaw analysis, the banking institution creates an asset for the benefit of savers-lenders in the form of a debt. The object of this debt, if we look closely at their analysis, is $xFCFA$. It will be seen that in practice $xFCFA$ is only the nominal money of the real object of the debt which is in fact the goods produced and stored by firms.

Returning to our *Balance sheet 1* example, the operation described in the notice from the banking institution to its customers means quite simply that $xFCFA$ are owed by the banking institution to the producing services insofar as they are simultaneously due by the firms to the banking institutions instantaneously.

If we are not mistaken in our reading of Gurley and Shaw (1960), the credit operation initiated by the bank has caused a transfer of debt. A debt created by the banking institution on itself has been subsequently transferred to the firm in the credit operation. Logically, we can say that the credit operation causes the existence of two debts. In practice, if we consider the Gurley–Shaw hypothesis, we have the banks’ debt and the firms’ debt. The bank is under an obligation to producing services and

firms are under an obligation to the bank. The object of each of the two obligations is related to the same $xFCFA$ which is producing non-spent income. Nevertheless the firms and the bank cannot be simultaneously indebted to the producing services. The bank accounting in *Table 1 above* shows that the banking institution simultaneously enters a debt which is not its own but that of the firm on the asset side of its balance sheet and a credit (households' deposits) on the liabilities of its balance sheet. In fact, in effecting the credit operation, the banking institution simultaneously creates a monetary asset and a monetary liability.

The credit operations between the banking institution and the economic units (producing services and firms) as described above are in practice flows and reflows of funds. There is on one side an instantaneous flow from the banking institution to firms, and on the other side, an instantaneous flow from producing services to the banking institution. The money created by the banking institution is not solely of the nature of a debt or separately of the nature of an asset as in the Gurley–Shaw analysis. It is simultaneously a debt and its counterpart, i.e. credit. The money issued by the banking institution is simultaneously an asset and a liability.

Consequently, since in the Gurley–Shaw analysis, the asset or debt created by the bank is monetary, it can be shown that the money issue is an instantaneous issue of both an asset and a liability. It appears henceforth illogical to say that money is an asset or separately a liability. The logic of the double-entry book-keeping principle in the banks' operation requires us to say that money is bound to be simultaneously both an asset and a liability.

The loan from the banking institution to firms is in practice the definition of a monetary asset on the firms or monetary debt on the bank whereas the flow from producing services to the banking institution is in practice the definition of a monetary asset of those on the banking institution. The two commitments are of the same nature, i.e. they have the same object, the $FCFA$ in our example. This last consideration allows us to say that banks cannot create positive purchasing power in their credit operations and that the debt-credit or liability-asset or money is not born in the banking institution before being transferred to the economic agents.

Primary logic requires us simultaneously to consider destruction, which is the flip side of what we see as a single operation of creation. Simultaneity in the money creation operation is interpreted here as the instantaneous creation-destruction that Schmitt terms *monetary emission* (Schmitt, 1984, p. 465).

3.3.2. Conception of money issue as a creation-destruction process

The issuing of money is a creation-destruction process. We have, in the credit operation described in *balance sheet 1*, the example of an economic system that cannot be complete and closed unless there is a relation between producing services and firms. The economic circuit becomes closed at the moment firms transmit, in a payment operation, to producing services the debt (money) issued on them by the banking institution. The credit granted by the banking institution to companies is interpreted as being of the nature of a money-creation operation. The issuing of money can be characterized here as a ‘tripartite’ relation (Gnos and Rasera, 1985) involving a banking institution and two economic agents, i.e. producing services and firms (Schmitt, 1975, p. 29; Bailly, 1992, p. 213; Cencini, 2005, p. 103).

In some economies, though, such as developing economies characterized by a ‘dual’ financial system, firms and producing services may cause money creation without the intermediation of official banks. This is what happens when MFIs fund microfirms’ productive activities. In such instances, the consequences of the credit operation can be construed in a similar way to those brought about by credit operations by official banks.

To summarize, the payment process is a flow–reflow resulting in a loan that producing services grant to firms. The key to understanding the issuing of money is in the payment operation and the result of this payment is a credit which income-holders make over to firms. Monetary emission results in income-holders holding a claim over the banking institution while firms are under an obligation to the same banking institution. The result of the monetary emission operation is consequently simultaneously positive (credit) and negative (debt) for economic units as a whole. This

result is identically and simultaneously negative and positive for the bank and is consistent with the double-entry book-keeping principle (Schmitt, 1996, p. 133–136; Cencini 2001, p. 26).

Economic units consist of firms and producing services; the payment operation, engenders monetary receivables for the latter and obligations for the former. The joint action of the economic units and the banking institution defines an instantaneous flow–stock process. This instantaneous flow–stock process is a form of monetary creation. Money thus arises in a payment process and acquires its effective character only when a real object is associated with it (produced goods). The issuing of money is an instantaneous flow–stock process effected through the combined action of firms, banks and producing services and it is necessarily characterized by a payment operation whose object is the goods actually produced (Gnos, 2003, 2005). The banking institution seems to act purely as an intermediary in the payment operation. However, does the banking institution’s action consist exclusively in this purely intermediary role? The answer to this question involves some understanding of banks’ function as a monetary intermediary in the production process and as financial intermediary in the result of this production process. The implications of this fresh interpretation for the MFIs function in LDCs are discussed in the next section.

4. The monetary intermediation of MFIs and their functional complementarity with banks

MFIs play a significant role in developing countries. They offset excess demand for financial services in the official financial sector. This is interpreted by the authors as a consequence of interest-rate administration by the authorities. In certain countries, the role of MFIs is also significant, as is that of the official banking institutions, in that it can affect macroeconomic policies (Agenor and Montiel, 1999, p.76) and in particular monetary policy (Shaw, 1954; Patinkin, 1961, p. 109–111).

4.1. MFIs finance income production activities in LDCs

In the case of the extension of financial liberalization policy, a variation in the rate of inflation, for example, can affect the interest rate on the non-organized money market as well as supply and demand of funds in this sector—with a feedback effect on the interest rate as well as on the supply and demand of loanable funds in the official financial sector. The effects of the relevant role of MFIs can be extended to the real sector of economic activities (Agenor and Montiel, 1999). What is the destination of MFI fund supply, and what is the signification of this fund supply? The answer of the authors to this question remains imprecise.

A similar thesis, related to the macroeconomic effect of the MFI credit activities in LDCs is defended by neo-structuralist authors (Taylor, 1983; Wijnbergen, 1983) when they evoke, as mentioned earlier, the reserve requirement assumption from which MFIs escape, making them more competitive in their credit operations than official banks. We also specified that the reserve requirement is by definition applied generally to deposits or bank credit operations in order to control their money issuing operations. The assumption that MFIs, escaping the reserve requirement as they do, are more competitive than official banks and interfere with the effectiveness of monetary policy is obviously true. Does that not mean that MFIs cause money to be issued through their credit operations designed to finance microfirms' production costs?

Do MFIs create money in their credit operations in developing countries? In other words, do MFI credit operations cause simultaneous 'asset–liability' issue? In practice, MFIs give impetus to income production in the microfirms sector in LDCs, (Lelart, 2000a, p. 24; Gladston, 1994, p. 324). A part of MFI credit thus goes to financing microfirms' production costs and is likely to cause new income production. The proof is that MFI loans are often reimbursed and that new jobs are created (Hemingway, 2004; Lapenu et al. 2004; Lelart, 2005a, 2005b). Thus, today, when MFIs are discussed, whether by economists or by international organizations, interest focuses more often on their role in poverty reduction than their role in providing loans to finance households' consumer spending. MFIs are supposed to be active in poverty reduction because their loans are for financing the production of new income—since it is only on the assumption that households' income increases that their poverty decreases. In certain cases, apart from the financial services they provide to the microentrepreneurs, MFIs also provide management training services for firms. The goal is to ensure the development of

the economic activity of microfirms and proper management of the income produced.⁹ MFIs' lending activity thus has a macroeconomic impact in LDCs.

In short, when loans granted by MFIs are used to finance consumer spending, no new income is produced. However, when these loans are used for funding microfirms' production costs, new income is obviously produced. The services provided by MFIs make it possible to break the poverty circle through access to credit (Barboza and Barreto, 2006, p. 16).

There is a consensus about the productive nature of MFI credit operations in LDCs. MFI lending provides an impetus for new money income production. This means that MFIs in their credit operations to microfirms cause income production whose nature is bound to be monetary.

4.2. The monetary function of MFIs in LDCs

Assumption: MFIs issue an 'atypical' money when they finance microfirms' production costs in LDCs.

Proof

We take into account the following considerations:

- We consider a developing economy with no contact with the outside and in which government tax resources are negligible. This economy produces at a moment (t) , an amount of income (R) . Income represents the payment of wages to producing services.
- We suppose the existence in our developing economy of an official banking institution (bank) and an MFI acting as mediator between the surplus-running economic units (the saver-lenders)

⁹As with MFI operations in Benin and Mali. See Ledgerwood, 2001, p. 78–79. See also Murdugh and De Aghion, 2005, Chapter 8.

and the deficit-running economic units (the borrower-spenders). The MFI can hold a deposit account (atypical saver-lenders) with the official banks.

- Income production is organized by a firm (F) which has access to the bank's financial services and a microfirm (MF) which can have access only to the MFI. The firm makes all its payments (R) at time (t). The firm may also have access to the MFI services, but this is ignored in our demonstration.
- The payments are due to the producing services which do not all have access to the bank's financial services.
- The goods produced by the firm and the microfirms are perfectly heterogeneous.

Consider that the firm pays wages for an amount (R) at time (t) at the instigation of bank funding. Given the foregoing considerations, we can consider that money is created in our economy in an amount (M_R). To simplify our demonstration, let us consider that the amount of income produced at the end of the operation is $xFCFA$.

A part of the income produced is used in purchasing the fraction of the goods produced which are in the form of stocks held by the firm. Suppose that this consumed portion of the income is equal to a fraction of the total income produced or:

$$C = cxFCFA \quad (1)$$

Households' aggregate savings are by deduction:

$$E = (1 - c)xFCFA \quad (2)$$

Because not all economic income holders have access to the bank's financial services, the MFI intervenes in order to ensure complete intermediation in LDCs. The unconsumed part of income is deposited in the form of savings (E) with the two intermediaries in the economy (part with the bank and part with the MFI).

Let us consider that the unconsumed part of households' saving (E_{MFI}) which is deposited by the producing services (SP_{MFI}) with the MFI is equivalent to half of the total savings. That is to say:

$$E_{MFI} = \frac{1}{2}(1 - c) \times FCFA \quad (3)$$

We can represent the bank and the MFI balance sheet:

Balance sheet 2

Bank			
<i>Liabilities</i>		<i>Assets</i>	
SP_B	$\frac{1}{2}(1 - c) \times FCFA$	<i>Firm</i>	$(1 - c) \times FCFA$
<i>M.F.I</i>	$\frac{1}{2}(1 - c) \times FCFA$		

SP_B represents the producing services which have access to banking services.

The MFI balance sheet reads:

Balance sheet 3.

MFI			
<i>Liabilities</i>		<i>Assets</i>	
SP_{MFI}	$\frac{1}{2}(1 - c) \times FCFA$	<i>Bank</i>	$\frac{1}{2}(1 - c) \times FCFA$

The savings deposited in the bank and in the MFI can be loaned to deficit-running economic units applying for loans.

Suppose now that the microfirm has a production plan for the following period $(t+1)$ and requires funding from the MFI.

Consider for simplicity that the required amount is equivalent to $\frac{1}{2}(1-c)xFCFA$ and that the application is met in full by the MFI.

Let us consider then that the microfirm uses the amount borrowed to remunerate the producing services taking part in the production process at time $(t+1)$ and the totality of the goods produced during the current time is sold.

In practice, the income produced at $(t+1)$ made it possible to consume the goods produced in that same period. The microfirm could, therefore, through the sale of the goods produced, refund the loan granted by the MFI. The situation of the period (t) is unchanged (see *Balance sheet 2* and *Balance sheet 3*). The goods produced at (t) can always be sold. However, the funding of the microfirm caused additional goods to be produced and consequently generated additional income. We already said that in our contemporary economies, income is essentially monetary. In practice, the MFI credit operation caused money to be created since the total product of the economy increased by an amount of $\frac{1}{2}(1-c)xFCFA$. The MFI, by funding microfirm production costs, creates money in the form of central money because all its transactions are in the form of high-powered money. The MFI is consequently a *de facto* bank. MFIs shall be referred to as microbanks from now on. This new interpretation of the function of microbanks is understandable with the concept of payment developed in the preceding section.

In practice, microfirms, by borrowing households' savings, forego part of their future incomes for an equivalent share of the current incomes of saver-lenders. The amount of interest is ignored within the framework of this demonstration since it does not affect the economic unit's behaviour in

our demonstration. The joint action of microbanks and microfirms gives rise to a new category of expenditure and thus a new category of income production. Should no savings be used in intermediation by microbanks, all of households' spending goes on purchases of the produced goods.

The new expenditure for productive motives, brought about by the joint action of microbanks and microfirms, causes an atypical flow of payments in LDCs. In fact, the production process caused by the interaction of microbanks ('non-legal' banking intermediaries), producing services (holders of a new flow of payments) and microfirms (organizing new production) defines an economic circuit which is fully integrated in the economic circuit defined by banks, with the firms and the producing services taking part in the firms' production process. This is quite simply because microfirms' producing services can consume firms' products and firms' producing services can consume microfirms' products.

Microfirms, while investing collected savings in new productive activities through microbank credit activities, use these saving to pay wages. This joint action of microbanks and microfirms in the payment process is a form of money creation operation.

This interpretation of money creation may seem difficult to grasp, but that is nevertheless what occurs, when banks finance productive activities. In practice the official banking institutions necessarily use income-holders' savings when they grant loans to finance firm's production costs. It is the double-entry book-keeping principle that formalizes the principle of equality between resources and their employment and that requires that credit granted by banks, generally, to firms equals credit granted by the producing services to banks.

This is what Keynes confirms in criticizing what he calls an 'optical illusion' that consists in separating the relation between deposit account holders and their banks from the credit operation performed by banks for the benefit of firms (Keynes, 1936/1971, p. 104–105).

The advance of future incomes to microfirms by microbanks describes an instantaneous flow–stock. Microbanks, by advancing the necessary funds to microfirms for their production in fact create the numerical or nominal form of goods produced, although this advance is based on saving, which is a form of financial capital. In practice, microbanks issue the numerical form of the future incomes produced by microfirms in an instantaneous destruction-creation process. Microbanks issue atypical

nominal money in the form of central money. The financing operation induces a relation between three entities: microbanks, microfirms and microfirms' producing services. We have, in this respect, a 'tripartite relation' as Gnos and Rasera (1985) explain. Microfirms' production operations engender a payment relation between them and the producing services involved in the production process. Finally, the payment operations induced by microfirms production have real contents which are the goods produced. Microbanks, in their credit operations, create a specific form of money and are, consequently, functionally complementary to banks in LDCs.

Even though Gurley and Shaw claim at the beginning of chapter 6 of *Money in a Theory of Finance* that non-bank intermediaries do not create money, that claim is contrary to what their analysis seems to show when they speak about the creation of a specific debt by these non-banking financial intermediaries (comparable today to MFIs in LDCs). They write that:

"Each financial asset, quite obviously, is created by someone. The difference between the monetary system and nonmonetary intermediaries in this respect, then, is not that one creates and the other does not, but rather that each creates its own unique form of debt" (Gurley and Shaw, 1960, p. 198).

In other words:

"There are many similarities between the monetary system and nonmonetary intermediaries, and the similarities are more important than the differences. Both types of financial institution create financial claims; and both may engage in multiple creation of their particular liabilities in relation to any one class of asset that they hold. Both act as intermediaries in the transfer of unspent incomes from surplus to deficit units. Moreover, as we shall show later, both are capable of creating loanable funds, of bringing about an excess stock of money..." (Gurley and Shaw, 1960, p. 202).

This non-specification of monetary function of the ‘non-bank’ intermediaries in the Gurley–Shaw analysis is due to a misunderstanding of the process of money income production. A slight modification of Gurley–Shaw analysis, by integrating the money income production process, enables us to show that bank and microbank intermediaries create their own unique form of ‘credit–debt’ or ‘asset–liabilities’ since they fund the production costs of credit-worthy firms and microfirms respectively. This ‘asset–liabilities’ issue is of the nature of money.

It is what the Radcliffe committee report confirms on the role of the ‘non-banking’ financial intermediaries in economic activity and summarized by Kaldor (1960).

"[...] the emphasis on the whole liquidity position in contrast to the money supply...must be puzzling to all those who believe that non-monetary financial institutions are merely channels in the investment of funds, incapable of creating money or credit in the manner of the clearing banks whose deposits alone provide media of payment... Financial institutions, whether or not they provide direct media of payment, do invariably create liquidity – since it is a peculiarity of all such institutions that their liabilities are considered as liquid assets by the lenders...whilst their assets are not treated as liquid liabilities...by the borrower... money substitutes...provide a substitute for holding cash...If this is so, there is no significant difference between the case for controlling the activities of the clearing banks and that for controlling those of the so-called non-monetary financial institutions". (Kaldor, 1960, p. 19)

A general proposal can be inferred from the foregoing considerations:

Proposal: When microbanks finance consumer spending, they do not create anything but transfer savings from saver-lenders to borrower-spenders. However, when microbanks finance microfirms’ production costs, they create a specific nominal money in the form of high-powered money since this is used in their credit operation. This money issue can be quantified. Since the funding of production

costs causes the production of income, it is enough to calculate the microfirms' gross product (MGP)

. Since the amount of loans intended to finance microfirms' production costs (pr_{MB}) is known and consequently so is the amount of the interest paid (iMB) and the income (R_{MF}) paid to the producing services, we can write:

$$MGP = pr_{MB} + iMB - R_{MF} \quad (4)$$

The nominal money issue engendered by microbanks' credit activity can be regarded as equivalent to the microfirms' gross product. Taking into account what precedes, we can conclude that microbanks are functionally complementary to banks in funding economic activity in LDCs. Generally, both banks and microbanks perform monetary and financial functions in their intermediary role in the macroeconomic process of income production in LDCs.

4.3. The monetary and financial intermediation of banks and microbanks

Banking institutions generally have two distinct but complementary functions. Banks and microbanks alike have monetary and financial functions.

4.3.1. Monetary intermediation by banks and microbanks and their functional complementarity

The banking intermediary, when it creates money, takes back what it creates instantaneously. Banks or microbanks create a debt on firms and take it back instantaneously from the producing services in the form of portfolios of deposit accounts held by the latter. Money is created and destroyed in this sense, as we said previously, in a payment between the producing services and firms or microfirms. The banking institution thus appears in the operation as being a pure monetary

intermediary, since the money it issues to firms or microfirms is that deposited by the producing services.

These deposit-incomes are financial. Consequently, intermediation by the banking institution relating to the use of these deposits is regarded as financial intermediation. That does not exclude, however, the fact that the use of the unspent income can cause new income production, a characteristic of bank and microbank functions that has already been emphasized. The principal point here and which is an intrinsic characteristic of the monetary function of banks and microbanks relates to the nature of money issue as set out above. In fact, what we can call money is created and destroyed simultaneously however it is created (Bailly, 1990, p. 255). In this respect, the monetary character of the banking function yields to the financial function. The financial function comes into play as soon as producing services acquire bank deposits in the form of income-deposits.

4.3.2. Financial intermediation by banks and microbanks and their structural complementarity

Let us go back to the example of *section 1* above. Suppose that firms and microfirms, in order to implement their production plans, apply for loans from banks and microbanks. They thereby contract a debt with the banking institution. However, firms and microfirms are not monetary debtors. They can be considered as monetary debtors only if they have to reimburse this money instantaneously to banks or microbanks. However, it is not firms or microfirms which repay this monetary debt to the banks or microbanks; it is producing services (incomes holders) who restore the money to banks or microbanks by holding portfolios of deposits accounts. These deposits made by producing services are actually receivables which they hold on banks or microbanks. In practice, the producing services make a loan to the banking institution. This loan is a credit of financial character. Firms or microfirms are financially indebted vis-à-vis banks or microbanks. They can be discharged partially or totally from their debt in the short or long term. Firms or microfirms become for this purpose financial debtors because repayment takes time. The money issuing operation is, consequently, a process of monetary intermediation since the money issued by banks or microbanks to fund firms' or microfirms'

production costs is instantaneously taken up from the producing services and the outcome of this money issue is a financial intermediation. By credit operations intended for consumer spending, banks and microbanks definitively finance the flow of goods produced by firms or microfirms. Banks and microbanks are, in this sense, financial intermediaries.

The first function is that of a credit vector and of a manager of means of payments that take part in the income production process; the second function is that of financial intermediary transmitting savings by loans. The microbanks credit operation in LDCs is perfectly adapted to the transmission of savings from saver-lenders to borrower-spenders.

If microbanks finance consumer expenditure, they perform a financial function which is identical in character to that performed by banks. However, they also finance microfirms' production cost expenditure and so contribute to income production in the microfirms' sector. The accounting operations engendered by microbanks are similar to those engendered by bank credit operations intended to fund firms' production cost. It is easy enough to picture the balance sheet of microbanks. It is identical to that illustrated in *balance sheet 1*. Microbanks issue, in this sense, a specific money in the form of high-powered money in LDCs.

5. Conclusion

MFIs play a particular role in income-producing activities in LDCs. The financial services they provide are generally aimed at economic units that are denied access to the official banking system. Among these economic units are many microentrepreneurs. MFIs issue 'specific' money or assets-liabilities when they finance microfirms' production costs. The quantity of money created by MFI activity can be measured from microfirms' gross output. In this respect, MFIs are functionally complementary to official banking institutions in financing economic activity in LDCs. MFIs are *de facto* banks. We have called them microbanks here. MFIs also deposit collected savings in the form of portfolios of deposit accounts with official banks. They are in this respect *de facto super deposit accounts* for economic units that do not have access to official bank deposit accounts in LDCs. In this way microbank intermediation in the contemporary LDCs economies allows 'poor' economic units to

overcome restricted access to banking services and credit. Monetary and financial reforms in LDCs should not ignore these considerations.

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