

## THEORIES REGARDING THE BANKING ACTIVITY

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### Abstract

*The banking activity is varied and complex and thus it is difficult to define banks. The literature on the field several theories that try to explain the existence of banks in economy were developed. These theories start from certain concepts such as: monitoring commissioning, information processing, liquidity transformation, smoothing of consumption and commitment method. Understanding the role banks have in the financial systems is one of the fundamental themes in economic and financial theory. The efficiency of the process through which economies are channeled into productive activities is crucial for the economic growth and well being. Banks are a part of this process of transfer of the funds from surplus agents towards deficit agents.*

**Key words:** banking theory, functions of banks, banking crisis

**JEL classification:** G21, O44,

### Introduction

The banking activity is varied and complex and thus it is difficult to define banks. From an operational point of view “*banks are institutions whose current operations consist in granting loans and attracting deposits from the large public*” [Freixas, Rochet, 2008, 1].

It is important to notice that granting loans and attracting deposits constitutes the current operations of the banks, because other commercial companies also occasionally grant credits to their clients or borrow from suppliers. Banks finance a large part of the granted credits by attracting deposits from the population and offer an array of services of public interest. The guaranteeing of the deposits of the population and the organizing of an efficient and safe payment system justifies a more careful regulation of this field.

### 1. Theories regarding the existence of banks

The literature on the field several theories that try to explain the existence of banks in economy were developed. These theories start from certain concepts such as: monitoring commissioning, information processing, liquidity transformation, linearization (smoothing) of consumption and commitment method.

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### **1.1. Delegated monitoring**

One of the most well known theories that try to explain the existence of banks and of the banking activity refers to the role of banks as an entity that „follows and verifies” debtors. Because the monitoring of the credit risk determined by the debtor’s inability or bad faith is costly, it is more efficient for the commissioning units (depositors) to delegate this monitoring activity to some specialized entities such as banks. Banks have the necessary expertise and they also benefit from the large scale economy in the processing of information regarding debtor risk.

One of the most relevant studies that explains why monitoring commissioning is the reason for the existence of banks is “*Financial intermediation and delegated monitoring*” written by D. W. Diamond. He analyses the determining factors for the commissioning of monitoring and developed a theoretical model in which the financial intermediaries, especially banks and insurance companies, have a net comparative advantage from the point of view of costs in relation to direct financing. The theory developed by Diamond is based on 2 premises[Diamond,1984]:

- a) diversity of the investment projects, that explains why it is more advantageous to delegate monitoring towards an intermediary than to have it be performed individually by creditors;
- b) intermediaries who perform the monitoring of debtors are bigger which allows them to finance a large number of debtors.

Considering the fact that diversification leads to the increase of the number of bank credits, the financial intermediaries of larger sizes will generate important scale economies in the monitoring process, which allows them to diversify the investment portfolio better than any individual creditor.

### **1.2. Process of information**

The obtaining of information regarding the investment opportunities is not free of charge which determined the specialization of some agents in the obtainment and manufacturing of such information. In the resource allocation process the surplus agents would register substantial costs if they were to find the potential partners on their own. The inexistence of banks would lead to the multiplying of the information manufacturing costs because each surplus agent would spend considerable amounts in search of the relevant information before setting their own funds at the disposal of the deficit agents. An alternative consists of the existence of a lower number of agents specialized in the manufacturing of information necessary for the investment process.

Banks have the necessary expertise in the processing of information regarding deficit agents, information they obtain because of the experience earned in time in the relationships with deficit agents. Banks have the necessary know-how for performing this type of activities which makes them very attractive for the fund owners. They will want to invest the available funds through banks knowing that they will allocate the funds to debtors who will have the ability to reimburse the loan and, thus, avoid the registering of some costs with obtaining information.

### **1.3. Liquidity transformation**

Banks set at the disposal of surplus agents (deponents) primary or secondary asset-backed securities with a superior liquidity. The bank deposits can be seen as credit agreements that present a high liquidity and a low risk and which are founded on the

resources attracted by the bank. Banks achieve a transformation of the size of the assets in the sense that they establish the size of the assets depending on the needs of the client, attract small size deposits and grant high value credits. Thus the banks based on the attracted small size deposits grant much larger credits, this transformation can occur because of the access banks have to a large mass of deponents and of the scale economy. Thus banks create liquidity that individual surplus agents can not.

Banks transform the deposits made mostly for short term into medium and long term credits. This non-correlation between the due dates of attracted deposits and the due dates of the granted credits can lead to the emergence at the level of the banks of the liquidity risk; but the larger the bank's portfolio of assets and liabilities the lower the risk for breach of obligations.

#### **1.4. Smoothing of consumption**

Recent studies [Bhattacharya, Thakor, 1993, 2-50] show that banks play an important role in the linearization of consumption, in the sense that banks are institutions that facilitate the linearization of the consumption of economic agents through insurance against liquidity shocks. The banking institutions can be seen as a liquidity source that insures the physical and artificial persons against particular shock that can affect their consumption needs [Freixas, Rochet, 2008, 20]. This theory is founded on the hypothesis that the economic agents have uncertain preferences regarding the expenses that determine a consistent demand for assets with a high liquidity. The financial intermediaries in general, banks especially, offer such assets by attracting depositors and granting credits and this facilitates the linearization of the individual consumption.

#### **1.5. Commitment method**

In the scientific process of explaining the existence of banks some authors [Casu, Girardone, Molyneux, 2006, 16] try to justify why bank assets (credits), which in principle are not liquid, are financed through bank deposits, most times on sight, deposits which allow deponents to liquidate at any time the performed deposit. These authors claim that the sight bank deposits have developed as a disciplining instrument for bankers. The sight deposits developed in order to limit the predilection of banks towards risk, thus the changes in the offer and demand of this type of bonds will reflect into the financing costs and will oblige banks to adopt a prudential behavior, ensuring that they have enough liquidities and capital resources.

## **2. Functions of the banks**

The main functions of the banks are to collect funds, especially in the shape of deposits, from the surplus agents and to lend funds in the shape of credits to deficit agents. The attracted deposits, as financial assets, present certain characteristics: low size as volume, low associated risk and a high degree of liquidity. The granted credits present characteristics diametrically opposed to deposits having a high associated risk, being of large sizes and with a low degree of liquidity.

The contemporary bank theory classified the functions of the banking activity into 4 categories [Casu, Girardone, Molyneux, 2006, 2]: offering of transfer and payment services;

transformation of assets; risk management; processing of information and monitoring of clients.

In a world with no transaction costs there would be no need for money, but considering the differences that occur in the real economy it is more efficient to exchange assets and services for money than for other assets and services, like in a barter based economy. The form of manifestation of money has evolved from the merchandise currency to the scriptural currency [Turliuc, Cocriș, 2007, 23-33]. Banks have a double role in the “commerce” with fiduciary money, money whose value is recognized and guaranteed by an institution: it performs the exchange between different currencies issued by different authorities and insures a payment system that enables the management of the client accounts and the performing of transfers between the accounts of different clients. The banks insure the transfer of important amounts of money over large distances under safe conditions, in short time and at reasonable costs. The safety and efficiency of the payment systems has become a priority of the monetary authorities and of the central banks especially during the past decades since on the international markets there was manifested a phenomenon of deregulation and globalization of the financial markets, concomitantly with a significant increase of the volumes transferred through the national or international payment systems administered by private entities [Rochet, Tirole, 1996].

In order to satisfy the needs of the deficit agents based on the amounts attracted from the surplus agents the banks have to perform a modification of assets. The modification of assets can be analyzed from several perspectives: transformation of the size of the assets, qualitative transformation and the transformation of due dates.

Banks perform a transformation of the size of the assets in the sense that they establish the size of the assets based on the needs of the client, attract small size deposits and grant high value credits. Thus based on the small size deposits attracted, banks grant much larger credits, this transformation can occur because of the access banks have to a large mass of deponents and the scale economy.

All credits have a non-reimbursement risk associated to them, called credit risk, which consists of the possibility that the debtor does not have the ability to reimburse the contracted credit. Banks have the possibility to minimize the individual credit risk by diversifying the investment portfolio, covering risks, evaluating and monitoring debtors.

Banks transform the deposits made mostly for short term in medium and long term credits. This non-correlation between the due dates of the attracted deposits and the due dates of the granted credits can lead to the emergence at the level of the banks of the liquidity risk.

Risk management, in broad sense, constitutes the main activity of the banks [Freixas, Rochet, 2008, 221]. Banks, in general, must select and control the risk inherent to the management activity of deposits, credit portfolio and, lately with an increasing weight in the banking activity, extra balance-sheet operations. Considering that the bankruptcy of a banking institution can have a negative effect on the financial system as a whole, the regulation and supervision organisms of the banking system must carefully monitor the balance and extra balance-sheet operations of the banks. The risks specific for the banking activities are [Heffernan, 2005, 104]: credit risk, market risk that comprises foreign currency risk and the interest rate risk, liquidity risk, operational risk and systemic risk. Banks have developed over time risk management systems through which they can limit or cover the risk they are exposed to.

Banks have an important role in the management of problems caused by information asymmetry in the relationship with debtors. Banks invest in technologies that allow them to evaluate the potential beneficiaries of the credits and to monitor their projects. The monitoring activity implies the development of a long term relationship between companies and financial intermediaries so as to eliminate the effects of the moral hazard [Mayer, 1988].

The monitoring activity performed by banks constitutes one of the major differences between the crediting activity performed by the banks and the issuing of bonds on the financial markets. Thus if the price of the bonds reflects the information on the market, the value of the bank credits results from the long term relationship between the bank and the client and it is a priori unknown for all parties involved [Freixas, Rochet, 2008, 6]. Thus it can be said that “bank credits are opaque” [Merton, 1995].

Banks reduce the transaction, research and information costs especially because of the scale economy, by increasing the transacted volumes, the transaction cost per unit decreases. Savings also come from the advantages financial intermediaries obtain from their specialization. Thus, when an intermediary specializes in a certain type of activity or in an activity sector, this situation allows it to offer services less costly and adapted to the needs of the clients. At the same time, the registering of some important savings also results from the diversified array of services offered to clients. This is the reason why banks seek to diversify their offer of products, so as to optimize infrastructure costs.

All contracts and transactions are based on information [Casu, Girardone, Molyneux, 2006, 9], in financial intermediation certain problems can occur: not all participants have the same information; all participants are not perfectly informed; part of the transaction can hold „inside” information, which is not available to both parties.

The information asymmetry (or informational asymmetry) can generate problems regarding the adverse selection and the moral hazard which can make the signing of financial agreements difficult decreasing the interest of participants and leading to the inefficiency of the financial intermediation.

Banks allow for the decrease of information asymmetries and contribute for a better allocation of the resources in economy. This function of the banks comes from the fact that their intermediation function gives them an informational advantage in relation to direct financing. Banks can hold private information, which is not circulated on the financial market. For example, if a client requires a financing application, then its bank has the possibility to evaluate the client, because it is administering their accounts and can obtain important information regarding the turnover, profitability and indebtedness degree. Through such a knowing of its client, the bank prevents the dissimulation of information before the signing of the agreement and reduces, thus, the information asymmetry, which leads to the adverse selection (representing a situation independent from the action of the contracting parties). For example, on the credit market, the banker ignores the exact characteristics of the investment project the enterprise intends to finance. Also, the financial intermediary guarantees the confidentiality of information, which can constitute a decisive advantage for creditors. Because of this characteristic the financial intermediaries have an advantage in comparison to the financing made on the market.

Secondly, any loan requires the achieving of the execution of the agreement, because after signing it the risk of a partial execution or of the non-execution of the control can be manifested. Such a form of asymmetry manifested subsequently, leads to the idea of morality, in the sense that the intermediaries can decrease the supervision costs and can

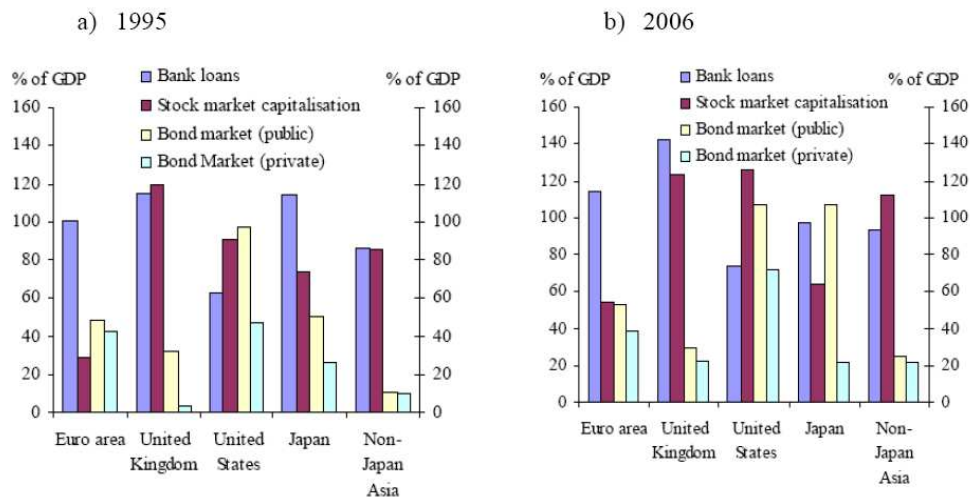
establish statistic or accounting methods by using specialist services. The latter exercise in turn an elaborate monitoring of the agreements and thus decrease the bankruptcy risk.

Banks have a well determined role in the decrease of information asymmetry, because they maintain long term relationships with their clients through the very nature of the fulfilled functions.

### 3. The role of banks in financial systems

Understanding the role banks have in the financial systems is one of the fundamental themes in economic and financial theory. The efficiency of the process through which economies are channeled into productive activities is crucial for the economic growth and well being. Banks are a part of this process of transfer of the funds from surplus agents towards deficit agents.

Even though in the past years on a global level the phenomenon of globalization that leads to the levelling of the financial systems was manifested, the role of banks in different economies still differs significantly. One method to see the importance of the banking system in an economy is to analyze the way deficit agents finance their long term investments.

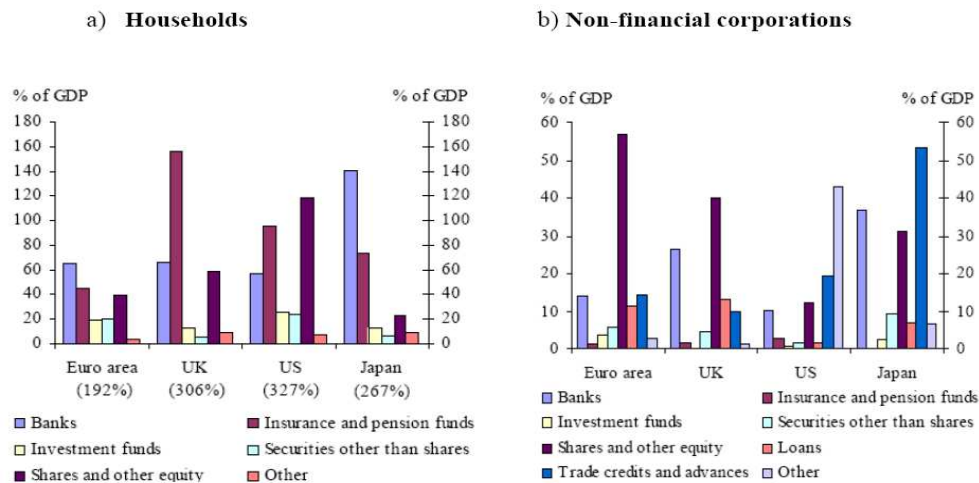


Source: [Allen, Carletti, 2008, 29]

**Fig. 1. Size of financial markets in developed countries/regions**

In the figure above there can be seen that in certain states/regions, such as the European Union, the banking system insures the greatest part of the resources necessary for long term financing and these states are considered to have a financial system based on banks, in other states there is shown that the greatest portion of resources are attracted with the help of capital markets, like in the USA, these states having a financial system based on markets and there are states that have a financial system in which banks and capital markets ensure a comparable amount of funds for long term investments (Japan and Great Britain).

Another method to analyze the role of banks in economy is to analyze the way in which surplus agents invest their economies.



**Fig. 2. Portfolio of assets of surplus agents (average for the period 1995-2002)**

It is seen that in Europe and Japan the physical persons have most of their economies in the form of deposits or other bank assets, while in the USA and in Great Britain physical persons place their economies into shares, pension funds and insurance companies.

### 3.1. The role of banks in the monitoring of debtors

An argument used frequently by specialists who claim that the financial systems based on banks are more efficient is the fact that banks allow for the solving of many problems concerning informational asymmetry. An important problem that occurs in the fund transfer process from surplus agents to deficit agents is if debtors have to take all the measures so that the loaned funds are used in the most effective way. These measures can consist of the depositing of all diligences or in the choice of the most profitable alternatives. Creditors can not notice the behavior of debtors unless they monitor the debtor, but since most times they do not have the ability to personally perform this activity they must pay an amount of money to a third party that monitors the debtor for them. In a financial market with many creditors there emerges the so-called problem of the „clandestine passenger” (free-rider). Because creditors have limited resources it is not to their advantage to pay for the monitoring costs and thus all creditors would like that the other creditors pay for these costs and they adopt a behavior of „clandestine passenger”. If all creditors adopt this behavior no one will perform the monitoring of debtors any longer.

One possible solution would be the hiring by all creditors of a third party that performs this activity, the so called commissioning of monitoring, but this solution also gives birth to another problem: who monitors the third party that monitors the debtors? Diamond has developed a model regarding the commissioned monitoring in which he shows that banks have the interest to act as a third party who performs the monitoring of debtors and produces the information necessary for an efficient allocation of resources [Diamond, 1994]

In the literature in the field [Boot, Thakor, 1997] there was even developed a model for the architecture of the financial system starting from this concept: banks – entities that perform the monitoring activity of debtors in the name of creditors, and having as premise the existence of 3 types of informational problems: a) the existence of incomplete

information regarding the future projects of the company; b) creditors don't know if the debtors place the funds into safe or risky investments; c) the probability that debtors have the opportunity to invest into risky projects. The 2 researchers show that the first informational problem can be solved by the financial markets and the second and third problems can be solved by financial intermediaries. These results demonstrate that the banks will dominate in an emerging financial system while the informational advantage of the financial markets allows them to be more developed in the mature financial systems.

### **3.2. The role of banks in risk management**

One of the most important functions of the financial system is the decreasing of risk by diversifying the investment portfolio. The followers of the financial systems based on markets claim that this type of financial systems performs the function of risk management better than the financial systems based on banks because they can perform the diversification of the portfolio much better and allow individual investors to diversify the portfolio. The diversification of the portfolio does not lead to the elimination of risk, but to its redistribution among several investors, thus the ones who have an adversity to risk will be exposed to some lower risks, and the ones with a bigger tolerance to risk will be exposed to higher risks.

The followers of the financial systems based on banks claim that the financial systems based on markets perform a better management through the corresponding diversification of the portfolio only of the unsystematic risk (risk caused by frauds or management mistakes, wrong strategic approaches of the market, decrease of the demand or of production, etc), but they can not also perform a management of the systematic risk which affects all the assets in the same way.

The followers of the financial systems based on banks claim that the banks have the ability to also cover the systematic risk through the intertemporal linearization of risk. Some researchers [Allen, Gale, 1997] have shown that although the systematic risk can not be eliminated through the diversification of the portfolio at a given time, it can be balanced in time so as to reduce its impact on the individual well being through intertemporal linearization between banks. This implies that the banks accumulate certain reserves when the profitability of the assets is high that they use when the profitability is low. The banks can perform the intertemporal linearization of the risk through the payment of a relatively constant periodical interest and thus deponents are not exposed to systemic risk.

Banks achieve this linearization of risk in the financial systems with a lower competition easier, because a very high level of the competition leads to disintermediation and thus this intertemporal linearization of risk can no longer occur.

### **3.3. The role of banks in the durable economic growth**

Another important role of the banks is the facilitation of economic growth. In the literature in the field an entire theory regarding which type of financial systems best promotes the economic growth was developed. Some recent studies [Levine, 2002] have shown that the structure of the financial system has no importance in the promotion of economic growth but the legal frame and the quality of the financial services matter more, while other studies [Tadessee, 2002] claim that the structure of the financial system does matter in the performing of a durable economic growth. Thus for the developing countries the financial systems based on banks are more efficient than the financial systems based on



markets in the promoting of economic growth, and in the developed countries the financial systems based on markets are more efficient than the financial systems based on banks.

Some studies [Levine, R., Zervos, 1998] show that the existence of some financial markets with a high liquidity or of a developed banking system facilitates the economic growth no matter the development level of the other component and that financial markets and banks are complementary in supporting economic growth.

### **Instead of conclusions – Banks and financial crises**

The development of financial innovations and of risky speculations, the expansion of credits, the increase of the price of assets with no economic basis, the sudden and unexpected drop of the prices of financial assets and the quick orientation towards liquidities or quality investments are inevitable as long as investors target to obtain the best profits. Under these circumstances, the emergence of financial crises is nothing new, but, as a defining trait of it, the global financial environment enables the possibility of transmitting crises in the entire system, their contagion respectively.

Financial crises are characterized by an accentuated decrease of the price of assets, the bankruptcy of some large financial and non-financial institutions, disfunctionalities on the foreign currency markets. The factors that can determine the emergence of such a financial crisis can be [Mishkin, 2001]: 1) deterioration of the balance sheet statement of financial institutions, 2) increase of the interest rate, 3) increase of uncertainty in economy, and 4) deterioration of the balance sheet statement of non-financial institutions because of the volatility of the prices of assets.

Banks play a decisive role in the development of financial crises as financial intermediaries that contribute to the efficient transfer of funds from surplus agents towards deficit agents. Banks can facilitate financial crises through the activities deployed on the financial markets which can influence the interest rates, the uncertainty on the market and the price of assets, but more so banking crises that are transformed into financial crises can occur. The banking crises can be defined as being a sufficiently difficult financial period that leads to the erosion of most of or of the entire capital in the banking system [Allen, Gale, 2007, 3].

Studies [Allen, Gale, 2001] have shown that the emergence of crises is not conditioned by the structure of financial systems, crises can occur in any type of financial system. The emergence of banking crises depends more on the level of development of the financial system or of the economy. The studies performed [Kaminsky, Reinhart, 1999] have shown that most times the banking crises were preceded by an excessive exposure of banks on the stock and real estate market. The emergence of banking crises is facilitated by the financial liberalization process corroborated with an inefficient legislative system and with a high degree of corruption [Demirgüç-Kunt, Detragiache, 1998].

The contagion models were developed more recently, after the Asian crisis in '97, which proved, more visible than in the previous cases, that when a country goes through a financial crisis, at the same time and, especially, in the same area, other countries are affected. In the past decades there was proven that a small amplitude shock can have a significant impact on the financial markets. A shock that initially affects just a certain region or a certain sector or even just certain financial institutions can be propagated, by contagion, through the connections between banks and other financial institutions towards the entire financial sector or towards other regions.

The analysis of the contagion effect can be made based on the direct connections between banks, researchers [Allen, Gale, 2001] studying how the banking system reacts to a crisis when the banks are integrated into a certain network. In a banking system in which clients have a certain preference for liquidity, banks insure themselves against liquidity shocks with the help of credits on the interbank market. The relationship developed between banks through swap agreements exposes the entire system in case a liquidity shock occurs at the level of one participant. Poorly developed banking systems are much more exposed to the contagion effects than developed systems because in these developed systems the relationships between banks are more developed and thus a larger portion of the portfolio losses suffered by a bank is transferred to several banks through interbank agreements.

A theme of interest is represented by the analysis of the impact of the individual risk of one bank on the entire banking system. Some authors [Freixas, Parigi, Rochet, 2000] analyzed the case when a bank must face a liquidity shock and the connection between the banking institutions is made through interbank credit lines. The impact of such a shock depends on the ability of the system to face a regional liquidity shock. Other authors [Allen, Gale, 2001] analyzed the impact of the bankruptcy of a bank on the entire banking system and have shown that the more developed the interbank connections, the lower the impact of a bankruptcy on the entire system.

In the analysis of the role of banks in the contagion of financial crises the financial innovations and the accounting system used must also be considered [Allen, Carletti, 2006]. Surely the theories regarding banking crises and financial crises will know great developments because of the global financial crisis which began in 2007.

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