Francesco Fasano

The bank-firm human relationship in the era of globalization and digitalization

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Preface

The relationship between banks and business is crucial for value creation processes. The support of banks is of fundamental importance, as it allows companies to obtain the financial resources necessary to seize growth opportunities or face negative contingencies that may emerge in the market.

This volume offers a review of the theories and empirical analyses that, over the last few decades, have contributed to clarifying what impact the quality and efficiency of financial systems can have on the business of companies and, in particular, on the role of banking development at both a national and local level. Through an accurate theoretical review of the literature and description of the state of scholarship on the subject, the author constructs his original contribution.

The author has used extreme rigour of method to focus on and investigate a significant analytical perspective, namely the impact globalization and digitization have on the bank-business relationship at the local level. The topic is of considerable interest, as the advancement of these two phenomena raises a question: Are personal relationships at the local level still important in order to access credit in current competitive contexts, which are characterized by centralized banking systems and new technologies applied to the world of finance?

Francesco Fasano focuses on these two aspects and highlights how, despite the increasing centralization and digitization of banking systems, the development of banking at the local level and the personal relationships that are established between banker and entrepreneur are still very important. In this sense, his contribution shows that companies that seek to grow cannot ignore virtuous local bank branch relationships, because bankers have in-depth knowledge of the community context and of companies, and as such they are better able to support business development.

This volume has a theoretical and research nature, but the richness of the content as well as the originality of the empirical results make consulting it useful not only for the scholar, but also for entrepreneurs and managers in search of management guidelines that can improve business operations. The ideas offered in the volume are also directed at policy-makers, who, according to the author, should support the development of financial systems that favour the acquisition of qualitative information that in turn favours credit procedures. In a future that seems to be a mix of physical and digital environments (the term *phygital* has recently been coined), new technologies should be exploited to provide banks not only with big data of a quantitative nature, but also with the qualitative information that is fundamental to support optimal financing choices.

PROFESSOR ALFIO CARIOLA

Preface

Banks are the engines that fuel the growth of companies, and corporate survival often depends on them. Processes of internationalization and the integration of financial markets seem to have reduced the relevance of local contexts. The globalization that has led to the centralization and integration of banking systems and new technologies in the financial world could threaten the relevance of local bank branches. The existing literature has highlighted how banking development at the local level, in terms of the geographical concentration of bank branches and physical proximity to customers, plays a key role in the financing choices of businesses, especially small- and medium-sized ones (SMEs), which casts doubt on the weight of international markets.

This contribution is framed in light of these arguments and joins an important line of research that investigates how the centralization of banking systems and technological innovation applied to finance can affect the impact that the local banking environment has on the activities of SMEs. The volume goes to the heart of the issue, proposing two original perspectives for analysis. In this manner, the author of the text proposes the results of two methodologically rigorous empirical tests that focus on new and original research topics in this field.

Firstly, the author analyses the different impact that national and local banking systems have on corporate financing choices, noting that national banking development influences the financial policies of companies more than the local level, despite the latter having maintained a certain pertinence in the face of the banking integration processes that characterized recent decades. Secondly, he examines whether digitalization in the banking sector has made it less indispensable to have the kind of personal relationships between banks and entrepreneurs that can physically take place within local bank branches. The results of the empirical analyses conducted show that, despite the digitization processes and recent technological trends introduced to the banking world, the human relationships between banks and entrepreneurs continue to be of fundamental importance to facilitate access to credit for SMEs. Thus, thanks to the empirical research that characterizes the content of this volume, Francesco Fasano has highlighted how banking relationships constitute the fuel that drives the engine needed to support the growth of businesses, even within an ever-changing context like that of banking.

In addition to the above, Francesco Fasano's contribution offers an exhaustive overview of the theories and existing literature on the topic of banking development in general and, in particular, on the local level. Finally, the in-depth analyses carried out in this paper reveal the presence of a promising research direction that investigates the role of local banking markets in light of globalization and digitization, as well as important practical implications for managers and entrepreneurs regarding the best ways to interact with the current financial world.

PROFESSOR MAURIZIO LA ROCCA

Introduction

Cash is king. This expression is widely used in corporate finance and denotes the importance of cash flow as a crucial driver of firm value. Indeed, cash is essential to capture growth opportunities, which constitute the most important dimension of corporate value.[1] Firms use cash to undertake profitable new investments, which are fundamental to sustain their growth. This cash can be generated through internal savings or external funding. In this regard, banks play a central role, as they allocate funds from savers to borrowers. Most European countries are bank-based economies, where banks constitute the main financial institutions and play a crucial role in entrepreneurial growth (Fraser *et al.*, 2015). As a result, bank debt is the single most important source of financing for European firms. Considering the importance of banks, the financial literature has examined many aspects of the banking phenomenon, and the banking-firm relationship has become a hot topic in corporate finance literature. Within this context, an interesting stream of research regards the role that banking development plays in corporate financial policies.[2] Banking development is intended as the development of a particular set of financial institutions, i.e. banks that, among other functions, provide short-, medium- and long-term finance to both the private and public sector. The role of banking development is thus very important, as "developed financial markets grant firms easier access to external funds" (Guiso *et al.*, 2004), fostering corporate growth (Demirguc-Kunt and

[1] Firm value is the combination of growth opportunities and assets in place (Myers, 1984). However, unlike assets in place, which can become obsolete, growth opportunities allow firms to look ahead and create value in the long run.

[2] The three most important dimensions of corporate financial policies are: debt, cash holdings and trade credit (Brealey, 2012).

Maksimovic, 1998). The extant literature has studied bank development by especially focusing on small- and medium-sized enterprises (SMEs), since they play a major role in economic growth and constitute 99% of businesses in the European Union.[3] According to the European Commission definition, SMEs are firms that have the following characteristics: they employee fewer than 250 persons and they have annual turnover below EUR 50 million and/or annual balance sheet totals not exceeding EUR 43 million. The relationship between banks and SMEs is particularly important, as the latter are informationally opaque businesses that have difficulty accessing external financial resources due to asymmetric information problems (Almeida *et al.*, 2004; Berger and Udell, 1998). SMEs' financial difficulties are due to the fact that often they do not have public balance sheets available, meaning banks, in turn, do not have enough information about them and, consequently, the risk level of the loans cannot be quantified easily. Additionally, SMEs typically do not have adequate collateral to provide as guarantees on their loans.

The existing financial literature has investigated banking development both at the national and local level. The first streams of research in this field focused on the development of national banking systems, observing a positive influence on corporate financial policies (Utrero-Gonzàlez, 2007; Giannetti, 2003; Rajan and Zingales, 1998, 2001; Mayer, 1990), for SMEs as well (Chittenden *et al.*, 1996). These authors highlighted how well-performing national banking markets can increase the availability of debt, as the efficiency of a banking system reduces the cost of external finance and mitigates the problems of asymmetric information through personal relationships between the bank and the firm. A subsequent stream of investigation, starting from the work of Guiso *et al.* (2004), observed that, despite contemporary globalisation, the local banking sector also has a positive effect on firms' financial policies, especially for SMEs (Palacín-Sánchez and Di Pietro, 2016; Deloof and La Rocca, 2015; La Rocca *et al.*, 2010; Alessandrini *et al.*, 2009; González and González, 2008; Utrero-González, 2007; Beck *et al.*, 2005; Pollard, 2003; Petersen and Rajan, 2002). These studies focus on a single country setting for their analysis and, interestingly, they observe that each local

[3] https://ec.europa.eu/growth/smes/sme-definition_en.

(provincial or regional) banking market has a different degree of development that could affect corporate financial choices differently. More specifically, they point out that physical closeness between the bank and the SME, which is an important measure of banking development, mitigates asymmetric information problems. Indeed, bank-SME proximity allows local banks to provide credit to SMEs based on soft information obtained through personal contacts with the firms, reducing information asymmetries. In this context of information asymmetries, the new financial technologies (fintech) are playing a breakthrough role, revolutionizing the banking world. Indeed, information collection procedures changed completely with the advent of fintech, which is based on hard quantifiable information only. New digital technologies in banking present a fascinating new opportunity to develop the way banks process information, without overlooking the importance of personal bank-entrepreneur human interactions in the collection of 'soft' information (Jakšič and Marinc, 2019).

Despite the fact such academic interest has generated a huge body of contributions, there are certain questions that have not been examined in-depth by available articles. The aim of this work is to contribute to the existing literature by studying new issues in the bank-SME relationship. The book consists of three chapters. The first introduces the economic and academic scenario in which the following empirical chapters are embedded. The second and the third are in response to new essays in banking development research. The second chapter focuses on a cross-country European environment. It first generalizes the findings of prior contributions that carried out single-country studies, confirming that local banking development affects firm financial policies positively in the wider European setting as well. Then it studies the relationship between local and national banking sectors and their resulting influence on the financial policies of SMEs. Interestingly, my results reveal that the development of banking markets at the national level shapes the influence that local banks have on SME financial policies. In particular, when national banking institutions are more developed, the effect the local banking sector has on SME financial decisions is less. Therefore, the development of national banking markets moderates the effect of local ones. However, my findings suggest that despite the growing importance of centralized and global banking systems, the bank-firm human relationship at the physical bank branch level is still important.

The third chapter investigates whether the growth of digitalization shapes the effect that local banking development has on SME financial policies. The results highlight the finding that digitalization only reduces the effect local banking institutions have on SME use of debt for national bank branches and not for cooperative bank branches. This is because cooperative banks, unlike national ones, base their lending decisions primarily on personally acquired 'soft' information rather than digitally acquired 'hard' information. However, my findings also suggest that despite the fact digitalization is rapidly increasing in the banking industry, the local banking market is still important, as the benefits of personal bank-firm relationships cannot be completely substituted by digitalization.

The chapters of this book have the same common thread, which is the role banking development plays in corporate growth processes, and I hope to offer new insights for the banking development literature. My results shed light on practical implications that policymakers, managers and practitioners could take into account. An initial inference is that the local banking context still matters, despite the internalization of financial markets and despite the advent of digitalization. The bank-SME relationship favours access to bank credit, allowing SMEs to secure business opportunities and grow, favouring in turn the growth of the entire economy. In this regard, contacts between firms and their lenders should be stimulated, especially in local contexts where local banking markets are poorly developed. This can occur through dedicated funds, financial incentives or online lending, which is a growing alternative source of financing that reduces information asymmetries through new financial technologies. This is particularly important for SMEs during crisis periods, such as the current COVID-19 pandemic when firms experienced dropping sales (Fasano *et al.*, 2022; Fahlenbrach *et al.*, 2021). Governments should reduce financial constraints by developing new banking instruments that support investments by SMEs, increasing the availability of debt financing, especially in underdeveloped provincial banking contexts. Moreover, the key implication of the contribution is that firms still need human bankers and close ties with their bank branches, even in a context where the national banking sector and digitalization are driving change. The decision-making role of a loan officer can be difficult to substitute with digitalization, especially for informationally opaque SMEs. However, the importance of bank branches is changing, and for this reason, in the near future, banking institutions should reorganize their business model to make digitalization and personal relationships coexist.

Chapter 1
Economic and academic scenario

Abstract of the chapter

The aim of the chapter is to introduce the economic and academic scenario in which the following two empirical chapters of the book are embedded. It first introduces the concept of the financial system, distinguishing between bank-based and market-based economies. Then it explores the relationship between financial systems and economic growth, underscoring the milestone contributions that gave life to this stream of research. Finally, it focuses on the role played by a specific element of the financial system – banking development, both at the national and local level – as a specific determinant of economic development, i.e. firm growth.

1.1. Bank-based versus market-based financial systems

The financial system is defined as the set of instruments, institutions and mechanisms that ensure the transfer of financial resources from surplus to deficit subjects (financial resource allocation function). According to Allen-Gale (2000) and Forestieri-Mottura (2002), the financial system makes possible the efficient allocation of resources between alternative projects in each period,[1] intertemporal reallocation of consumption[2] and efficient risk sharing in each period. There are two types of financial systems: market-based and bank-based systems.[3] There is heated debate regarding the superiority of the bank-based financial system relative to the market-based one. Classic theories argue for the central role of the market in solving problems of resource allocation and production efficiency. Economic theories do not identify any better solutions than the use of a market system, despite imperfections and frictions caused by information asymmetries, agency and transaction costs, and incentive problems. The market-based system allows for efficient resource allocation.[4] At the same time, the limits of market mechanisms, highlighted by

[1] In terms of links between capital budgeting decisions, capital structure and dividend policy.

[2] The concavity of the utility curves creates a mismatch between income and consumption flows. Economic agents prefer to have uniform consumption flows over time, while income flows show fluctuating trends. The financial system allows for lending and borrowing in such a way as to ensure uniformity of flows. This function is essential regardless of the presence of risk in the system.

[3] For example, if there were no stock market, all the risk would fall on the owner, and no one would be willing to undertake innovative but very risky projects.

[4] Classic economic models underscore the importance of an efficient financial system to promote the development of a country through the performance of the traditional functions of intertemporal reallocation of consumption, efficient allocation of resources between alternative projects in each period, and efficient risk-sharing in each period (risk-sharing).

many scandals and financial crises (for example, the Enron case), have forced reconsideration of the advantages of the financial intermediaries that are crucial in a bank system. Financial intermediaries, especially banks, are institutions capable of performing, alternatively, the same functions as the free market.

The different strengths and weaknesses of a financial system based on the market or on financial intermediaries leads to a series of trade-offs in terms of the ability to support the business of companies. Allen and Gale (2000), and Rajan and Zingales (2001 and 2003), performed an in-depth analysis of the positive and negative aspects of the two different systems as support for economic growth and their ability to appreciate the value of investments in tangible and intangible assets.

In order to concisely represent the characteristics of the two systems, I have provided Table 1.1.

Table 1.1. – *Trade-off characteristics of market-based and bank-based financial systems*

MARKET-BASED SYSTEM	***BANK-BASED SYSTEM***
Central role of the financial market.	Central role of financial intermediaries.
Market competition ensures a risk-sharing process. Investors build their portfolios of assets based on their personal risk attitude.	The banking system ensures intertemporal risk-sharing by acting as a guarantor of investors.

The literature has focused on the analysis of the positive and negative aspects of the two main types of financial systems, trying to identify which is better at achieving high levels of economic performance. Market-based systems typically concern Anglo-Saxon countries, whereas bank-based systems are German (Allen, 2001). Classic economic models, in which the market has a key role, even in situations of friction, have been challenged on many occasions. For example, with the economic boom of Asian markets (whose financial system, based on connections with financial intermediaries, has favoured economic development), a bank-based system seemed to be more efficient; the subsequent implosion caused by the attempt to implement a market-based system, without having suitable structures, rules systems and enforcement, once again highlighted an access comparison issue between the two types. The development of the financial market in Germany and the growing number of IPOs in this country suggest that there is a natural trend towards a market economy for strong economies.

MARKET-BASED SYSTEM	***BANK-BASED SYSTEM***
Efficiency is the key feature for proper system operation.	Stability is the key feature for the functioning of the system.
Corporate governance based on takeovers.	Business monitoring activities carried out by intermediaries.
Information publicly available to all investors.	Information available for banks and intermediaries.

Source: elaboration based on Allen and Gale (2000).

A financial system based on the key role of the bank (Gerschenkron, 1962; Stiglitz, 1985) could support industrial growth more effectively because it is better able to obtain and process information on the quality of firms, thanks to more careful checks. Indeed, financial market do not check firms' creditworthiness as carefully as financial intermediaries such as banks do. A bank-based system can easily obtain information about firms, facilitate the intertemporal allocation of resources and the renegotiation of securities, and have a more transparent enforcement system. In Germany, a typical bank-based system, information is available to banks, and banks monitor the activities of the companies. This kind of system is based on 'relationships', where banks come into close contact with businesses and their needs. Furthermore, banks can exploit economies of scale and scope in corporate financing (Rajan-Zingales, 1998), which allow them to select investment projects worthy of financing and limit the consequences of corporate crises. Unfortunately, this approach also means a higher risk of collusion and the scarce development of innovative ideas in support of companies with many collateral activities and established businesses.

The difference between the two systems also concerns the way in which periods of crisis and recession (such as the 1929 crisis in the U.S.A., the 2008 crisis, and the COVID-19 crisis) are managed. A system where central banks are important can immediately support an economy in crisis and prevent situations of failure. In contrast, in the U.S.A., where the economy is mainly market-based, in cases of crisis the whole economic system suffers greatly. In the U.S.A., efficiency is a first-order problem to guarantee the optimal allocation of resources, whereas in the

Germany the stability of the entire financial system is of primary importance (trade-off between efficiency and the stability of the financial system). A financial system based on the functions of the market (Rajan, 1992; Levine, 1991; Obstfeld, 1994) favours an efficient allocation of resources.[5] Supporters of this approach argue that banks are not able to support innovative and risky investment projects or new businesses that do not have the same ability to share risk among investors. This is why banks that tend to establish close financial ties with strong companies do not feel any incentive to finance new companies with innovative projects that might not be successful in the market (Beck-Levine, 2000). Additionally, banks could obtain private benefits by adopting opportunistic behaviour at the expense of other investors, if these banks acquire privileged information about companies. Therefore, these arguments support the market-based system and the mechanisms of competition and information exchange that make efficient resource allocation possible.[6]

[5] For a review of all the positive aspects of a market-based system, see Levin-Zervos (1998).

[6] 1) The bank-based view highlights the positive role of banks in (i) acquiring information about firms and managers and thereby improving capital allocation and corporate governance, (ii) managing cross-sectional, intertemporal, and liquidity risk, thereby enhancing investment efficiency and economic growth, and (iii) mobilizing capital to exploit economies of scale. The bank-based view also stresses the shortcomings of market-based systems. Well-developed markets quickly and publicly reveal information, which reduces incentives for individual investors to acquire information. Banks, however, mitigate this problem since they form long-term relationships with firms and do not reveal information immediately in public markets. Banks – as coordinated coalitions of investors – are better than uncoordinated markets at monitoring firms and reducing post-lending moral hazards (asset substitution). Those who support the bank-based view also stress that liquid markets create a myopic investor climate. In liquid markets, investors can inexpensively sell their shares, so they have fewer incentives to exert rigorous corporate control. Thus, according to the bank-based view, greater market development may hinder corporate control and economic growth. Furthermore, Rajan and Zingales (1998) stress that powerful banks can more effectively force firms to repay their debts than atomistic markets, especially in countries with weak contract enforcement capabilities. Without powerful banks to force repayment, therefore, external investors may be reluctant to finance industrial expansion in countries with underdeveloped institutions. Thus, the bank-based view holds that banks – unhampered by regulatory restrictions on their activities – can exploit scale economies in information processing, ameliorate moral hazard through effective monitoring, form long-term relationships with firms to ease asymmetric information distortions, and thus boost economic growth.

Moreover, the arm's length market (invisible hand of the market) has many advantages. Firstly, market prices contain valuable information. Secondly, it is easy to diversify the risk. Thirdly, there are fewer financial constraints. The market promotes the role of competition which should ensure the transparency of transactions in such a way as to guarantee wide diversification of risk and an efficient dissemination of information. Consequently, prices based on the market will reflect all pertinent information and signal the efficient allocation of resources. In the U.S.A., investors who create portfolios of securities take on business risk, whereas in Germany they are willing to obtain lower returns in exchange by transferring risk to intermediaries. The U.S. system is characterized by widespread shareholders; ownership is spread across different subjects and the governance of companies is in the hands of managers. In this context, free-riding problems emerge because of the difficulty many small investors have in taking on the burden of monitoring the work of managers. In this environment, takeovers are of great importance, as they constitute an external control tool; if management is inefficient, the market will punish it by substituting it. In particular, Rajan and Zingales (1998) highlight the impossibility of resolving the ambiguous question of the superiority of one of the two systems over the other, and they underscore the possibility of managing the problem through two approaches:

1. considering the two functional systems in an equivalent way;
2. adopting a contingent ranking system, based on specific situations,

In contrast, the market-based view highlights the growth-enhancing role of well-functioning markets in (i) fostering greater incentives to research firms, since it is easier to profit from this information by trading in big, liquid markets, (ii) enhancing corporate governance by easing takeovers and making it easier to tie managerial compensation to firm performance, and (iii) facilitating risk management. Moreover, the market-based view stresses problems with banks. Specifically, powerful banks can stymie innovation by extracting informational rents and protecting established firms with close bank-firm ties from competition (Rajan, 1992). Furthermore, powerful banks with few regulatory restrictions on their activities may collude with firm managers against other creditors and impede efficient corporate governance. In contrast, competitive capital markets play a positive role in aggregating diffuse information signals and effectively transmitting this information to investors, with beneficial implications for firm financing and economic performance. Thus, proponents of the market-based view stress that markets will reduce the inherent inefficiencies associated with banks and enhance economic growth.

that makes it possible to deduce how the market is better in some contexts and worse in others.

Taking this second position, Rajan and Zingales provided a valuable contribution in their comparison of the two different types of financial system and they effectively described the intermediation function (from surplus to deficit subjects) performed by the financial system when they identified the best structure it should have for the specific characteristics of its environmental and legal context. In this manner the authors focus on some dimensions:

1. the ability to ensure investors receive a return on their investments by guaranteeing the correctness of the economic transaction (relationship) and compliance with contractual provisions;[7]
2. the ability to identify development opportunities relative to the level of capital available on the market.[8]
3. advantages and disadvantages (and related determining factors) of a bank-oriented financial system compared to a market-orientated one. The existence of these advantages and disadvantages does not mean it is possible to argue that one system prevails over the other, but it indicates some of the benefits that the two systems have, depending on specific and contingent situations;
4. the controversial question of which of the two systems can offer better contexts and performance has certainly provided useful insights regarding the economic development of a system; for example, better corporate disclosure transparency can be obtained through gradual

[7] This first factor is called "level of contractability", and the level of efficiency of a country's legal system refers to the capacity of rules, property rights and institutions to facilitate the performance of economic transactions, guaranteeing the efficient behaviour of the *ex-ante* economic agents and an efficient allocation of the surplus generated *ex-post*. In other words, it is a system of rules that ensures economic transactions run smoothly in the market without any need for financial intermediaries to intervene.

[8] This second factor refers to the ability to provide signals regarding the level of resource allocation efficiency relative to investment opportunities (availability of capital / investment opportunities). The number of positive investment opportunities and the availability of capital create a context in which, alternatively, a bank-oriented or market-oriented system has better allocative capacity.

improvement of its two main components: accounting rules[9] and principles and external disclosure.[10]

Regardless of the distinction between a bank-based or market-based system, it is important to have financial systems that are efficient. What exactly does it mean to have an efficient financial system? As an institutional governance tool the financial system makes it possible to reduce agency, information and transaction asymmetry problems, so as to favour the economic development of companies. As Rajan and Zingales (2002) point out, a well-developed financial system reduces inefficiencies in the allocation of resources. To have an efficient financial system it is also important to have a strong enforcement system. In the absence of an efficient legal and judicial system that protects the interests of investors, economic transactions could be brokered by subjects with a high level of economic power or through institutions capable of protecting the interests of investors. In light of these considerations, Rajan and Zingales (2001) deem it necessary to pay greater attention to economic policies that promote efficient financial systems in countries through transparent and correct accounting principles and rules, along with a legal and judicial system capable of supporting financial activities. An increase in the transparency of transactions in the capital market, the efficiency of the legal and judicial system, and more accurate accounting principles (in general,

[9] For example, the implementation in Germany of certain international accounting standards could avoid equivocal situations and allow German companies to abandon a system based on "conservativism" in favour of a more transparent, true and fair approach. For example, a few years ago AEG, thanks to the opportunity German companies have to report freely attributable balance sheet losses in subsequent years, was able to present, for three consecutive years, balance sheets that were perfectly balanced (being able to present zero profits for three consecutive years casts some doubt on the true reliability of the financial statements).

[10] When investors give their financial resources to companies, they obtain certain rights and decisional power. Creditors have the right to get collateral assets or, in the U.S.A., to reorganize the company when it violates certain covenants. Shareholders have the right to vote on matters of particular importance and to choose directors. In general, all investors have the right to receive all the information necessary to assess the company's state of health and management activities. If this information is missing, many of the rights held by investors cannot apply. Therefore, it is clear that the link between the system of safeguarding investors from opportunistic behaviour on the part of directors and the need for disclosure are prerequisites for exercising one's rights.

the presence of a corporate governance system) improve the degree of development and efficiency of the financial system and bank-firm relationships; in this way the financial system can appreciate the value of business investment projects and support them through external financial resources. It is of fundamental importance to increase the efficiency of the financial system by improving the system of acquiring and exchanging economic information. Moreover, this in turn makes it possible to reduce transaction costs. To this end, banking intermediation and financial markets could work together with the same goal. From this perspective, economic policy implications suggest the need for greater intervention to improve the efficiency of the financial system, which will in turn improve economic transactions on the market and have a significant impact on the economic growth of companies.

1.2. Financial systems and economic growth

Studies on the link between the financial system and economic growth started with the contribution of Schumpeter (1911), who was the first to highlight the positive role played by a developed financial system in the growth of the economy. In support of his view on "destructive creativity", an efficient financial system is expected to sustain radical innovations in the product market by supporting the creativity of new businesses that need external financial resources, which are available quickly and cheaply. An efficient financial system should finance intangible assets without the need for collateral to support the financing. It is able to finance new and innovative entrepreneurial initiatives that do not have easy access to financial credit because of the high-level intangibility and riskiness of the business. The functioning of the financial system, whose purpose is to transfer financial resources from lenders to borrowers of funds, can be interpreted in terms of its level of efficiency. Maximum efficiency means optimal allocation of resources. The concept of efficiency is linked to the ability to reflect all relevant and available information instantly and completely.[11] When all pertinent information is available, as

[11] While the concept of information efficiency concerns the ability to possess all rel-