

**THE ROLE OF LOCAL BANKS' NETWORK
IN THE MODERN BANKING SYSTEM:
AN ITALIAN CASE STUDY**

M. MODINA*, V. FORMISANO**

Abstract

Based on the network theory and its applications in finance, the study examines how a network between Italian local banks has improved the members' performance and strengthened the quality and innovation of their banking services. By focusing on economic interactions and financial performance, the paper reports and analyses the results of a banking network established in 1985 among various Italian small banks.

The paper identifies two main findings. First, it argues that bank network improve the economic performance and corporate decision of the members. The second finding is the network's ability to reinforce the competitive positioning of local banks in the distributing process by improving quality and adding innovation to the banking products and services.

Providing both theoretical and practical insights into the opportunity of a local bank to be a member of a network - considered as a collection of local banks (nodes) and links between the nodes, the study shows that network strategy could be useful for small financial intermediaries to enhance their role and support their competitive advantage in the modern banking system.

Keywords: Network; integration; banking industry; service innovation; banking performance.

* Michele Modina, Associate Professor in Enterprise Management, University of Molise, Italy; michele.modina@unimol.it

** Vincenzo Formisano, Associate Professor in Enterprise Management, University of Cassino, Italy; v.formisano@eco.unicas.it

1. The network theory and its applications to finance

The current financial crisis is producing several consequences on the economic and financial world. For many, the crisis started in the summer 2007 is a direct consequence of the new banking paradigm that emerged in the last decade, when many banks abandoned the traditional model of originating and holding the loans in their portfolio until their maturity for adopting the 'originate to distribute' model where they originate and sell their assets to the market.

The financial turmoil has intensified the degree of interdependence between banks and other financial institutions. As noted by Allen and Babus (2008), the dependencies in the modern financial system stem from both the asset and the liability sides of their balance sheets. Direct asset linkages in the balance sheet result from exposures between banks acquired through the interbank market. From the liability side, banks are indirectly connected in a network when they hold similar portfolio exposures.

The application of network theory in the financial world could help to understand the structure of linkages between financial institutions and the incentive they have when forming networks. The simplest type of network consists of a collection of vertices (nodes) joined by edges (links or ties). A link between two nodes represents a direct or indirect relationship between them. In essence, the financial system is a network, with nodes defined by the banks and links defined by the financial interconnections between these financial institutions. At the same time the balance sheet of a bank is a network, with nodes defined by the assets and ties defined by the correlations among those assets. To better understand the complexity of the modern financial world and assess its relative stability, a useful tool activity is to map the connections between financial institutions and analyze the quality of the links. In effect, despite the potential benefits, the connections in the financial world could increase the risk of contagion of small shocks into the entire system.

Researchers and academics have deeply studied the role and the benefits of networks in the world economy and the set of economic situations where network theory plays a crucial role is wide: markets in general, labour market, enterprises' network, alliances and trading agreements. For example, referring to the buyer-and-seller network, there is an alternate view to the standard Arrow-Debreu model of the economy that holds that the interactions between agents do not operate in centralized markets, but rather consist of a complex structure of bilateral trades and relationships between buyers and sellers.

The techniques used to study the economic and financial world followed two main approaches: the economic model and the non-economic approach. The first one is based on the idea that economic and financial phenomena find an explanation in terms of choices made by rational agents. The analysis of cost and benefits of the connections drives the agents' decisions of the type of interactions. The main assumption is that the agents' behaviour is driven by incentives; the magnitude of incentives depends on each agent's relative position in the network. The network directly influences the side effects of the connections across players and the network formation, which considers different equilibrium concepts and theoretical models (Jackson, 2004), stands on the idea that the players have a strategic behaviour (i.e. they know the game they play).

The non-economic approach finds its roots in a set of common properties revealed by empirical evidence in non-economic fields such as physics, science or ecology. Reviewing of network systems such as complex biological, social, information and technological networks, Newman (2006) finds that the structure of systems taking the form of network shares three main and universal features: a small-world effect, an unequal degree distribution and a high transitivity.¹ Inspired by these observations, many

¹ As reported in Allen and Babus (2007), the small world property implies that the average shortest distance between pairs of nodes tends to be very low. The distance between two nodes is measured as the number of links between the two nodes in the network. The maximum distance between any pair of nodes in a network is also small. Networks tend to exhibit high inequality in the number of

researchers aim to see whether the social or global environment might help to explain how economic and financial networks come to have the observed structure, or what the expected cause-and-effects insights of that structure will be. These days an interdisciplinary approach might offer useful advice on how to predict and control systemic financial risk. For Haldane (2009), the dynamic of the modern financial network seems both robust and fragile showing a property similar to other complex adaptive networks, such as rainforests.

Despite the numerous applications these models could find in the financial system (e.g. investment decision, corporate governance, commercial and investment banking network), the literature on financial networks is still incipient. Most of the existing research focuses on the relationship between networks, financial stability and risk of contagion and addresses the issue of systemic risk. Several papers investigate how banking systems respond to contagion when banks are linked under network structure: evaluating risk within financial networks requires to discover and examine network externalities. Focusing on contagious effects due to direct links formed in the interbank market (Freixas et al., 2000; Dasgupta, 2004; Naylor et al., 2008) or studying the indirect linkages made by the same portfolio exposure (Lagunoff and Shreft, 2001; de Vries, 2005; Cifuentes et al., 2005), most of the authors' conclusions find that financial systems are inherently fragile.

While the risk of contagion might be expected to be larger in highly interconnected banking systems, researchers indicate that the issue of network formation plays a crucial role due to the fact that shocks have complex effects. In this view, a more optimistic finding is contained in different empirical studies (among others, Furfine, 2003; Wells, 2004) and in the paper of Allen and Gale (2000). Studying the impact of degree of four network frameworks on the stability of the banking system, they show that complete networks are more resilient to contagious effects of a financial crisis than incomplete structures. In their model, the network is represented by the interbank market, while the nodes are banks and links are deposits. Starting from these results and using the framework introduced by Diamond and Dybvig (1983), Babus (2007) investigate the formation of bank networks when the banks are exposed to contagion risk. For her, banks respond to contagion risk by forming links. More connections between banks may reduce the risk of contagion: the more complete the set of links between banks is, the lower the risk of contagion in the system. A stable network is very likely to support systemic stability.

A network approach to financial systems is crucial for assessing financial stability and can be instrumental in capturing the externalities that the risk associated with a single institution may create for the entire system. A better understanding of network may help to better analyze the increasing complexity of a more interlinked financial system. In this perspective, the study must investigate not only the linkages within the financial sector or between the financial and economic world, but also the quality of these connections.

2. Local banks network

In these years, the banking sector has been shaken by structural changes. The banks have reacted in different ways; the big financial institutions have moved into the direction of external growth both on national and international scale, while local banks have tried to find the best strategic and tactic option to maintain their competitive advantage. One option followed by smaller banks is the creation of networks in order to enhance their efficiency and their economic and market performance. In this perspective, every member

links nodes have: the probability that a node in a network interacts with other nodes follows a power-law distribution. As a consequence very few nodes have a large number of links and a large number of nodes have very few links. Finally, the tendency of linked nodes to have common neighbors, measured by clustering coefficient, is very high when compared to networks where links are formed at random.

of the network acts as a single knot of a disseminated networks of local banks, who share products, services and best practices in the organizational process.

Local banks can realize important benefits by forming networks. Forming networks allows the pursuit of economies of scale and scope, as well as the provision of a safety net or mutual support mechanism that can compensate for the risk concentration an individual bank with a homogenous member base faces. Desrochers and Fischer (2005) conduct a cross-country survey of the level of integration of systems of cooperative banks and its effect on measures of performance. Based on the idea that controlling uncertainty and exploiting economies of scales are the driving force behind the creation of bank networks and that the severity of contractual hazard determines the organizational complexity of these systems, they identify three categories of networks depending on their level of integration: atomized systems, consensual networks and strategic networks. They note that lateral contracts between local partners imply appropriability hazard (AH) for the members of the network. AH results when counterparts act opportunistically to appropriate the rent generated by the alliance. The higher AH is, the higher the need to introduce adaptation mechanisms and hierarchical features. Moreover, local banks face organizational costs in the form of expense preferences, sub-goal pursuit (a risk which increases with increasing diffusion of ownership and with the size of the institution) and bounded rationality which increase significantly the slope of the efficient frontier. By integrating in networks, local banks can reduce procurement costs but this requires organizational structures to control AH. However, controlling for AH by (integrating more deeply or) merging increases the risk of expense preferences. Based on these assumptions, the authors find that i) integration tends to reduce volatility of efficiency and performance regardless of its level of development; (ii) integration appears to help control measures of managers' expense preferences; (iii) despite the high costs of running hub-like organizations in highly integrated systems, these systems economize in bounded rationality and operate at lower costs than less integrated systems.

As noted by Fonteyne (2005), the networks between local banks can be organized as relatively flat organizations or as multi-levelled structures including in between levels of regional groups or associations. For instance, Di Salvo (2002) distinguishes four models of network among cooperative banks: a) groups that have centralized/concentrated systems at the national level (e.g. the Netherlands); b) groups that have centralized/concentrated systems at the regional level (e.g. France); c) groups that are legally integrated, but have decentralized systems (e.g. Germany); d) decentralized systems with voluntary integration (e.g. Italy). Each model differs for the size and depth of the services offered to the members. In some cases, the services provided by higher levels are rather limited and involve activities such as advice to members, education and training and representing members to the outside world. In other networks, the central organization plays the role of a "central bank" for the member cooperatives. Its main service regards the cash management also through a consolidated Asset-Liability Management (ALM) policy. They also could provide services in which economies of scale are important (i.e. technological services, marketing, product development). They also act as holding companies for joint-stock subsidiaries, which often include insurance, asset management, investment banking and IT firms. A few of these networks have evolved into large, complex, financial conglomerates coming to resemble the managerial top of an integrated group.

Modina and Polese (2008) identify that a suitable structure for local banks could be a polycentric network characterized by the presence of as many centres as the number of member banks. Based on some fundamental variables (knot characteristic, knot trait comparison, localization, centrality degree), in the polycentric structure every local bank acts as an equal partner in activities like the government designation, the evolution processes participation and the resources release. In this system, all the nodes (banks) have the same dimension and keep the mutual relationship with the main territorial actors. In this framework, the local banks could maintain their comparative advantage respect to larger banks, strengthen their economic performance and become a vehicle of innovation.

Given the importance of network in explaining the success of local banks, in our paper we try to address two types of questions: the effect of the network on the economic performance and the network's ability to reinforce the competitive positioning of the members. While the first type of question captures aspects related to efficiency, the second type highlights how local banks network might contribute to improve the innovation and the quality of banking services and products. By examining the results of an Italian network of various local banks, we explore how small financial institutions, which join a network, could face fundamental challenges and evolve their competitive advantage.

3. The small dimension: weak and strong points of local banks

The local bank, like every business, distinguishes itself for specific elements which characterize its weak and strong points.

Among these points a significant importance is given by the small dimension.

This important characteristic, on one hand, implies greater organizational flexibility, better communication with its clients, establishment of internal relations based on more knowledge and therefore relations founded on reciprocal trust, on the other hand, the unavoidable impossibility to take advantage of the economies of scale, due to its operative dimensions, and the economies of scope, associated with the joint production of several products.

The advantage of achieving economies of scale can be traced back to the reduction of average production costs with the increase of the volume produced, while the scope economies advantages are similar to "savings" and to greater utility given by the combined production of products and different services, taking advantage of the same productive factors.

It is therefore evident how scale and scope economies are fundamental for competitiveness: their total achievement represents, for any business or financial intermediary, an undeniable advantage in the choice of expansive strategies and price fixation on the market (Ruozi and Zara, 2001).

The functional areas in which business strategies are developed can influence various elements: price, quality characteristics of products, ability to define areas where demand is weak or not yet satisfactory.

Therefore a local bank, strong with specialist competence and information regarding the territory in which it operates, its economy and business area, has the potential to identify market needs, where it can profit by using scale and scope economies, therefore reducing the competitive advantage of bigger banks, at least in reference to the cost variable.

In the light of what has been said we can affirm that an organizational structure such as a network applied to the local banking system can be the solution so as not to isolate the reality of small banking institutions to the market margin. In this scenario, we analyse two fundamental aspects as stated above: a) the effect of network on economic performance; b) the network ability to reinforce the competitive position of the network members.

In fact, the local banking business within the network can share knowledge and has greater availability of resources, including financial resources, so as to bear costs related to personnel and for qualified consultants, research and development, statistics and monitoring of the ambient in reference, which otherwise could not bear, besides achieving another important goal: the possibility of reducing or fractioning the risk in every business or investment activity (Masera, 2001).

It is equally important to stress that the banking groups, established in order to reach certain dimensional levels and consequent benefits, have not always obtained the estimated and expected results.

Therefore, we think it is right to affirm that the network structure is a necessary but not sufficient condition for the development of the "local bank" reality: the achievement of

quantitative dimensions must go along with the qualitative growth of the structure (Cotta Ramusino, 1998).

An approach connected to what so far has been highlighted and linked to the criticality of the resources is offered by the “resource based view” theory (Penrose, 1959; Rumelt, 1984; Wernerfelt, 1984) according to which a company acquires a competitive advantage on the market in reference due to the individualization of its own specific skills and, consequently, the areas/markets where it can be successful in terms of profitability and competitiveness (De Cecco, 1988).

The company's resources are the productive factors available in the firm which, through the range of complex business operations, are translated into products and services for the market. The competitive advantage of such resources, whether tangible, intangible or human, is closely related to the ability to coordinate, develop and manage them.

This approach is opposed to Porter's theory of competitive forces (1985, 1993) which proposes to identify and study the forces operating in the economic environment in reference firstly, and then develop a competitive strategy in tune with these forces in order to obtain competitive advantage over the other competitors in the sector.

Theoretically we can see that only the theory of resources and skills analysis can not ensure the achievement of profit and the growth of an organization in the long run: competitive advantage requires not only the use of internal existing resources, but also the ability to invest in new resources coherent to environmental changes.

4. The banking network as a possible answer to complexity

The characteristic and distinction of the local banking activity, such as the strong link with the economic environment, control of primary relationships, trust and attachment of clients, organizational flexibility and quick decisions may only initially be a barrier for any new competitors on the market.

In a medium-term perspective, comparing big and small firms in local markets it is obvious that the latter faces difficulties in trying to compete with the resources available, the aggressive competitor's policies in the middle market, while the bigger firms have great possibilities for competitiveness on every corner.

For this reason it is necessary to consolidate traditional strengths, in order to adapt to new competitive scenarios, especially in the initial phase of competitiveness.

The strong and direct relationship with the clients must be further strengthened and encouraged by the offer of a vast range of products and services, with quality characteristics and competitive prices in order to meet the needs of a growing market, always careful and ready to compare and choose accordingly thus avoiding the danger of losing their clients, attracted by better equipped and more specialized banks.

Regarding savings investment services, the growing complexity and awareness of needs involves improving the contents of products offered and the ability to act as interlocutors for long periods with clients.

This should be accompanied, from an organizational point of view, by the rethinking of business structures, in terms of easy to use technologies and staff retraining, not only in terms of technical training, but also the ability to relate, to sell and negotiate.

The answer to these problems is found in the research of collaboration forms with other credit and financial institutions, not necessarily belonging to the same dimensional class but having activities in common in order to expand their line of products to offer their clients, however, ensuring that each institution retains its own decision-taking power and possibility of evaluating the convenience of adopting different policies in any circumstance.

The network, identified in a certain area of exchange among a group of businesses, connected by a collaboration relation, different according to each situation considered, and co-ordinated by a central management body, consents each firm to continue having its distinct competence and can regard, according to each single case, productive skills,

technology, clients, distribution network, utilizing the critical abilities of the other member firms.

Each member of the network can consider the choice of producing particular services, and buying others abroad, in order to have a vast range to sell. It is not fundamentally necessary to make your own products and services to put on the market, on the contrary, when these are bought from a third party there is significant saving of resources and necessary skills, furthermore, we can count on the supplier partner's expertise to guarantee quality, convenience and product safety.

Therefore local banks can focus on the production of more personalized internal services, distinguished for their direct and continuous relation with the clients (intermediation activity) and delegate a third party the realization of more standardized products, necessary to satisfy the numerous market needs, without considering the dimensions achieved.

Moreover, because of the strength and continuity of the close relationship with clients, the vast diffusion throughout the territory and the opportunity to have informative advantages due to the easiness of relating, local banks can be regarded as valid potential partners, within the network of big banks in order to facilitate their process of expansion and development.

The risk you run, repeatedly mentioned in doctrine, is that, in the long term, the local bank may become dependent on the know-how of the bigger bank and lose its managerial autonomy.

However, participation in the network allows local banks to focus their resources and strategies, on the activity which has always been the core in the organization of these financial intermediaries: the role of credit intermediation. It is a careful and successful management, according to innovative methodologies and tools, a prerequisite to maintain leadership on the territory.

Indeed, the greater the ability of the bank to act as credit intermediary, pursuing efficiency and a financial economic balance in its management and, in terms of duration and technical form of funding, satisfying the needs of the firm entrusted to him, the lower the risk of losing customer relationships, and undergo dangerous competitive pressure.

The application of management criteria previously exposed may allow smaller banks to tackle their biggest competitors, equipped with sophisticated tools to attract and select, then appraise the clients' income, ensuring the successful adoption by the bank of prices and conditions for each transaction considering its degree of risk/return.

Although the network form (n form) is long-latent in the theory of organizations, only in relatively recent times particular attention has been given to the phenomenon, after its development, as a result of the great change of the competitive scenario and environment in which organizations interact and establish relationships of different kinds.

The n form, numbered among the organizational inventions adopted to face the growing complexity of markets interested in the globalisation process, is suitable for the reduction of time in responding to the economic changes, imposed on firms from the hyper-competition, and necessary to keep and increase the levels of efficiency, competence and flexibility.

The analyses of the n form, meant as a planned model, co-ordinated and governed by a focal firm, can be considered from two points of view: from the focal firm's and from the "transactional ambient", which identifies all the relations established with independent firms and managed by the same focal firm underlining the complementarity of actors of the network and the existing interaction between the parties.

Through the execution of their own actors within the boundaries of the transactional ambient, in fact, the central firm succeeds in using all the resources necessary to exert influence on the firm's partner's behaviour, ensuring the common form, the agreement length, the pursuit of common objectives and interests for each single partner.

The empirical evidence demonstrates that banks belonging to the network obtain better performance compared to the average national situation, having based their offer on numerous services supplied according to different modalities and grouped in areas of

various activities, such as informatics consultancy, management of stock portfolios, personnel training in financial areas, development of banking software and the management of information flow from the banking networks.

5. The Cabel case

Cabel (Centro Assistenza Bancaria) was founded in 1985, after the initiative undertaken by three rural banks of Tuscany, to create a “polyfunctional centre for local banks”.

At first, the activities carried out, are those of management organization and business organization on one hand, and computerization management on the other hand.

During the years of business, the Cabel grew, developed in many directions, the qualitative level increased and the range of services and products offered to member banks and clients did too; regarding the quantity profile, there was an increase in the number of banks users and also their type as its clients were cooperative credit institutions, commercial banks, branches of foreign banks, SIM (Società d'Intermediazione Mobiliare) and financial institutions.

It was in 1992, when a particularly important project was carried out, for the firm's organizational structure development, identifiable in an operative and organizational growth process, between Cabel and bank users to achieve unitary objectives in strategic addresses, in functional connections, market services, resources and technological supports. This project in all its specifications, takes into consideration the economic and operating aspect of the local member banks, the opportunities and requirement of organizational competence, noticed also within Cabel.

Following such guidance, a group structure was created, along with bank users, is one of the most innovative examples of Bank-Net.

Specifically it was possible to identify five possible strategic roles, which in the form n are covered by partner firms. At the achievement of its business mission, Cabel identified the following strategic objectives:

- the “planner/designer”;
- the “manufacturer”;
- the “supplier”;
- the “market developer”;
- the “distributor”;
- the “broker”.

The coordination functions, planning and management of the network are carried out by the broker, who is responsible to report with all the other roles aiming to achieve the common strategic objectives. In the figure (Graph 1) each of the connections is represented by bi-directional arrows to indicate the existence of synergies and reciprocal exchanges between the specialist firms and the broker.

To pursue its strategic objectives in an optimal manner, Cabel searched for key skills for the redefinition of the designed features of the previous hierarchical forms identified in:

- integration,
- multi membership,
- flexibility,
- development of method and mental models;
- relation development.

The cost-effectiveness related to the network membership is measured by comparing the same 2008 indicators for the risk, profitability and productivity profile to the national average as reported in the Table 1.

Graph 1

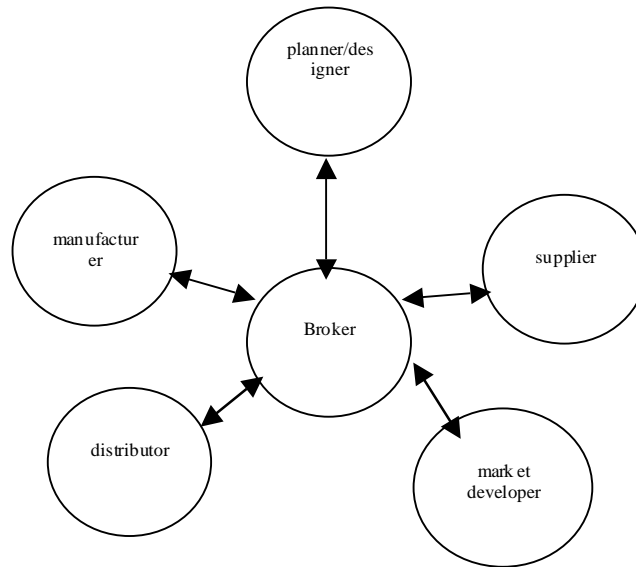


Table 1

	CABEL GROUP	ITALIAN BANKS
PROFIT PROFILE		
OPERATIONAL COSTS: AVERAGE INTEREST	73,66%	102,08%
OPERATIONAL COSTS: AVERAGE INTERMED.	59,14%	62,40%
OPERATIONAL COSTS: DEPOSIT	2,89%	4,48%
RISULTATO GESTIONE : DEPOSIT	2,00%	2,70%
AVERAGE INTEREST : AVERAGE INTERMED.	80,28%	61,12%
AVERAGE INTEREST: DEPOSIT	3,92%	4,38%
RISK PROFILE		
UNPAID: INVESTMENT:	2,68%	6,22%

6. Conclusions

Our financial systems are networks and these networks nowadays are more 'complex and connected. For this reason tracing networks between financial institutions is the first step to better understand modern financial systems. A vision of the network not only represents the various connections within the financial sector, or between the financial sector and others, but also considers the quality of these links.

In this paper, we asserted that the network could play a crucial role in improving the competitive advantage of local banks.

The theory of reference adopted is constituted from the theory of resources in the context of the systemic management of business organizations. By taking this approach, the physical size and quantity is not important as such but because it determines and provides greater capacity and expertise for the evolutionary generating value system. Therefore, in this view, a high quality dimension expresses great dynamic skills of the management body and of the operative structure of the banking system, as well as better use of incorporated skills in the operative structure.

Indeed, as demonstrated by the operative reality, not necessarily does the greater dimension correspond to greater skills and competences necessary to pursue and maintain competitive advantage in the long run.

Also banks of smaller dimensions may achieve adequate levels of development of skills and competence adopting organizational solutions deriving from the network.

6. References

- Allen, F. and Babus A. (2008), “Networks in Finance”, working paper, Wharton Financial Institutions Center, No. 08-07.
- Allen, F. and D. Gale (2000), “Financial Contagion”, *Journal of Political Economy*, 108(1), pp. 1-33.
- Babus, A. (2007), “The Formation of Financial Networks,” Discussion Paper, Tinbergen Institute, No. 06-093.
- Cifuentes, R., Ferrucci G. and Shin, H.S. (2005), “Liquidity Risk and Contagion”, *Journal of European Economic Association*, 3(2-3), pp. 556-566.
- Cotta Ramusino, E. (1998), *Imprese e industria finanziaria nel processo di globalizzazione*, Giuffrè.
- Dasgupta, A. (2004), “Financial Contagion through Capital Connections: A Model of the Origin and Spread of Bank Panics”, *Journal of European Economic Association*, 2(6), pp. 1049-1084.
- De Cecco, M. (1988), “Le imprese tra banca e finanza”, *L'industria*, n. 1.
- Desrochers, M. and Fischer K.P. (2005), “The Power of Networks: Integration and Financial Cooperative Performance”, *Annals of Public and Cooperative Economics* 76:3, pp. 307-354.
- de Vries, C. (2005), “The Simple Economics of Bank Fragility”, *Journal of Banking and Finance*, 29(4), pp. 803-825.
- Diamond, D. and Dybvig P. (1983), “Bank Runs, Deposit Insurance and Liquidity”, *Journal of Political Economy*, 91, pp. 401-419.
- Di Salvo, R. (2002), “La governance des systèmes bancaires mutualistes et coopératifs en Europe”, *Revue d'Economie Financière*, No. 67, pp. 165-180.
- Fonteyne, W. (2005), “Cooperative Banks in Europe – Policy Issues”, IMF Working Paper, No. WP/07/159.
- Freixas, X., Parigi G. and Rochet J.C. (2000), “Systemic Risk, Interbank Relations and Liquidity Provision by the Central Bank,” *Journal of Money, Credit and Banking*, 32(3), pp. 611-638.
- Furfine, C. (2003), “Interbank Exposures: Quantifying the Risk of Contagion”, *Journal of Money, Credit and Banking*, 35(1), pp. 111-128.
- Jackson, M. (2004), “A Survey of Models of Network Formation: Stability and Efficiency,” Chapter 1 in *Group Formation in Economics; Networks, Clubs and Coalitions*, ed. G. Demange and M. Wooders, Cambridge University Press, Cambridge U.K.
- Haldane, A.G. (2009), “Why Banks Failed the Stress Test”, speech given at the Marcus-Evans Conference, 9-10 February.
- Lagunoff, R. and Schreft L. (2001), “A Model of Financial Fragility”, *Journal of Economic Theory*, 99, pp. 220-264.

- Masera, R. (2001), *Il rischio e le banche: la revisione dell'accordo di Basilea. Implicazioni per le banche minori.*, Il Sole 24 Ore, Milano.
- Modina, M. and Polese F. (2008), "The Strategic Role of Local Banks' Networks for Quality Standards of Corporate Banking Services for SMEs", in *11th Toulon-Verona Conference on Quality and Service Sciences*, Florence, pp. 643-658.
- Naylor, M.J., Rose L.C. and Moyle B.J. (2008), "A Network Theory of Financial Cascades", Paper SSRN No. 1184604.
- Newman, M., Barabási A.L. and Watts D.J. (eds) (2006), *The Structure and Dynamics of Networks*, Princeton, NJ/Oxford, Princeton University Press.
- Penrose, E T. (1959), *The Theory of the Growth of the Firm*, John Wiley, New York, NY.
- Porter, M. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, Free Press, New York.
- Porter M. E., (1993), "Come le forze competitive modellano la strategia", in Montgomery C., Porter M. E. (a cura di), *Strategia*, Il Sole 24 Ore Libri, Milano, pp. 24-40.
- Rumelt, Richard (1982) "Diversification Strategy and Profitability", *Strategic Management Journal*, 3.
- Ruozi, R. and Zara C. (2001), "Il rapporto tra banca e Pmi: caratteristiche strutturali e tendenze evolutive", *Bancaria*, n. 10.
- Wells, S. (2004), "U.K. Interbank Exposures: Systemic Risk Implications", *Journal of Monetary Economics*, 2(1), pp. 66-77.
- Wernerfelt, B. (1984) "A Resource-based view of the Firm", *Strategic Management Journal*, 5, pp. 171-180.