

**HOW IMITATION OF MULTIPLE REFERENCE GROUPS DRIVES THE EVOLUTION OF
FIRM STRATEGY**

Raquel Orcos

raquel.orcos@unirioja.es

Jaime Gómez

jaime.gomez@unirioja.es

Henk W. Volberda

h.w.volberda@uva.nl

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Abstract

This research explores how the strategy of firms evolves as a result of the imitation of several reference groups. In particular, it analyzes the extent to which firms replicate the strategic behaviors of successful firms, direct rivals and firms from the same category. Additionally, it examines potential variations in the speed of imitation depending on the reference group that is considered. Using a sample of firms of the Spanish retail banking sector from 1994 to 2009, our results show that, over time, firms tend to imitate the strategies of the three reference groups considered. The results also reveal significant variations in the speed of imitation depending on the reference group. We find that imitation to firms from the same category is faster than imitation to successful firms and direct rivals.

Key words

Strategic evolution, speed of imitation, successful firms, direct rivals, categories

1. INTRODUCTION

Analyzing how firms configure their strategies is at the heart of Strategic Management (Deephouse, 1999). Strategic configuration is usually conceived as a dynamic process that involves continuous and incremental modifications (Mintzberg, 1978). Firms tend to slightly redefine their strategic configuration over time as a mean of adjustment towards the changing circumstances of the environment (Snow and Hambrick, 1980). In particular, firms often modify their strategies aiming at responding to two types of environmental pressures, namely, economic pressures and normative pressures (Oliver, 1991; Zhao et al., 2017). Whereas economic pressures force firms to operate according to efficiency and competitive criteria, normative pressures compel firms to accommodate expectations of social agents into their activities (Volberda et al., 2012). A common way in which firms may respond to both type of pressures is by imitating the behaviour of others. For instance, firms may attempt to satisfy economic pressures by replicating the strategic choices of their rivals or by copying the successful practices of larger firms (Haunschild and Miner, 1997; Lieberman and Asaba, 2006). Likewise, when entering into a foreign market, firms may choose the entry mode that is taken for granted as an attempt to respond to normative pressures (Guillén, 2003). Consequently, the response to economic and normative pressures by the imitation of others may be an important driver of strategic evolution, which, for the purpose of this research, is conceived as the dynamic process by which firms redefine their strategies over time.

In this vein, our research focuses on exploring how imitation determines the evolution of firms' strategies. First, we aim at determining to whom firms imitate. In particular, we contend that firms tend to replicate the strategic behaviors of three reference groups: successful firms, direct rivals and firms from the same category. Second, we focus on the process of imitation, which has been much less analyzed in the literature (Oh and Barker, 2018; Posen, Lee and Yi, 2013). Specifically, we explore potential variations in the speed of imitation regarding the reference group acting as the target of imitation.

Our empirical analysis is conducted using a sample of firms from the Spanish retail banking sector covering the period from 1994 to 2009. It shows that, over time, firms strategically convergence toward the three reference groups (i.e. successful firms, direct rivals and category members). Our results

also evidence that the speed of convergence varies regarding the analyzed reference group. In particular, we find that the speed with which firms adjust direct rivals and successful firms is clearly slower than the speed with which they conform to their categories.

The contribution of this research to previous literature is threefold. First, it enriches previous literature by moving from theories that single out a unique reference group to frameworks that examine how firms use multiple reference groups to configure their behaviors (Giachetti and Lampel, 2010; Fiegenbaum, Hart, and Schendel, 1996). By integrating the literature on the motives of imitation with the analysis of reference groups (DiMaggio and Powell, 1983; Fiegenbaum and Thomas, 1995; Lieberman and Asaba, 2006), we help to identify more precisely the firms that are used as referents when managers make choices. This improves our knowledge on the mental models that managers use to simplify the cognitive process involved in understanding their industries (Porac and Thomas, 1990; Reger and Huff, 1993). Second, previous literature on inter-firm imitation has mainly analyzed how firms decide to replicate specific strategic choices such as the adoption of product, administrative and technological innovations (Giachetti and Lanzolla, 2016; Greve, 1998; Greve and Seidel, 2015; Westphal, Gulati and Shortel, 1997), the entry into foreign markets (Chan, Makino and Isobe, 2006; Guillén, 2002, 2003), and the use of diversification and commercialization patterns (Fligstein, 1991; Pitsakis and Giachetti, 2019). Conversely, we analyze the consequences of imitation on the overall strategic position, focusing on how imitation shapes strategic evolution in the long term, rather than occasionally. Thus, our perspective may help to build a more global and dynamic view of strategy (Porter, 1991). Third, we increase our understanding on the process of imitation by exploring how the considered reference group determines the speed of imitation. This contributes to the literature on imitation speed (Giachetti, Lampel and Le Pira, 2017; Giachetti and Lanzolla, 2016; Lee et al., 2000, Smith et al., 1997).

This paper is structured as follows. We first briefly review the literature on the drivers of imitation. After that, we develop a set of hypotheses that explore how the strategy of firms evolve as a result of the imitation of successful firms, direct rivals, and firms from the same category. Our hypotheses also analyze differences in the speed of imitation. Subsequently, we describe our empirical analysis and

present our results. Finally, we discuss the findings of our research, as well as the main conclusions that can be drawn from it.

2. LITERATURE REVIEW: MOTIVES FOR IMITATION

Determining why firms imitate other firms is a research question that has largely intrigued scholars. According to the literature there are three main motives that contribute to explain the imitative behaviors of firms. From an economic perspective, imitation is due to information-based motives and rivalry-based motives (Lieberman and Asaba, 2006). From a normative view, firms imitate because of legitimacy-based motives (Chan, Makino and Isobe, 2006; Guillén, 2002).

Information-based motives rely on the assumption that managers gather information to make strategic choices through the observation of others. The basic premise is that the visible actions of other firms are cues that contribute to resolve the intrinsic uncertainty of any strategic choice (Ethiraj and Zhu, 2008). For instance, the adoption of an innovation technology by other firms within the industry signals its efficacy, while the abandonment of an innovation technology means that it is not sufficiently efficient (Greve and Seidel, 2015). By paying attention to others, firms may vicariously learn about the consequences of the observed behaviors and, in turn, to predict more accurately the results that arise from different strategic actions (Levitt and March, 1988). From an information-based perspective, imitative behaviors that result from vicarious learning confer two main advantages. First, imitation allows firms to develop successful practices without incurring in implementation and experimentation costs (Cyert and March, 1963). Second, imitation reduces firms' chances of making wrong strategic decisions, as managers may focus on replicating successful behaviors and disregard those that have been unsuccessful (Baum, Li, and Usher, 2000; Huber, 1991; Kim and Miner, 2007) after observing the outcomes of the actions taken by other managers.

Rivalry-based motives drive imitative behaviors when firms aim at neutralizing the risk of becoming worse off relative to other firms (Lieberman and Asaba, 2006). Since imitation may prevent a pioneering firm from accumulating new strategic resources that alter the competitive status quo in the industry, imitation is often conceived as a competitive move that attempts to maintain the firm's relative competitive position (Genesove and Mullin, 2001; Gimeno et al., 2005). The fact that firms may use imitation as a mean of keeping parity with rivals has been documented by previous literature. For

instance, research on action–response dyads (Chen, Smith, and Grimm, 1992, Smith et al., 1997) suggests that responses in which a respondent makes the same moves as the attacker are common because they signal a commitment to defending the status quo without engaging in destructive warfare (Chen and MacMillan, 1992). Similarly, it has been argued that industry leaders can imitate the moves of their rivals as a mean to neutralize competitive threats and, in turn, to maintain their leadership (Ross and Sharapov, 2015). Moreover, as suggested by strategic groups’ theory, firms may decide to imitate their rivals as a mean to increase strategic similarity and, in this way, to attain the coordination and communication advantages that similar firms enjoy (Caves and Porter, 1977; Peteraf, 1993). Likewise, firms may have incentives to imitate their rivals to increase strategic similarity to them and, thus, to enhance the likelihood of developing cooperation agreements that provide them with advantages such as a higher market share or a higher success in the innovation process (Bouncken et al, 2015; Devece, Ribeiro-Soriano and Palacios-Marqués, 2019).

Finally, with respect to legitimacy-based motives, institutional theorists suggest that firms tend to adopt certain behaviours that are externally established (Greenwood and Hinings, 1996). Social agents such as professional associations, consumers or the government exert influence on firms that lead them to conform to socially prescribed behaviors (Scott, 1987; Tolbert and Zucker, 1983; Heugens and Lander, 2009). Firms have strong incentives to conform to these socially accepted behaviours because by acting in this way they may achieve legitimacy. Legitimacy is defined as “*a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions*” (Suchman 1995: 574). Legitimacy brings to firms several advantages. For instance, it guarantees the flow of resources, increases institutional support, reduces uncertainty, and enhances the chances of survival (DiMaggio and Powell, 1983; Meyer and Rowan, 1977). Conversely, firms that develop behaviors that are not socially accepted may be subject to challenges to its rationality, or reliability (Ashforth and Gibbs, 1990; Suchman, 1995).

This research proposes that these three motives for imitation coexist when firms configure their strategies over time. Managers seek to adopt a strategic position that leads their firms to succeed, to remain in the competitive game, and to be understood and accepted within the social context where they

are embedded (Oliver, 1991). Consequently, among other reasons, the evolution of a firm's strategy results from imitation aimed at achieving higher efficiency, competitive parity and legitimacy.

3. THEORETICAL FRAMEWORK AND HYPOTHESES

Our theoretical framework is articulated around four hypotheses. Whereas the first three hypotheses explore how the responses to economic and normative pressures result in imitative behaviors that lead firms to strategically converge towards three reference points, namely, successful firms, direct rivals and firms from the same category, the last hypothesis analyzes differences in the speed of convergence depending on the reference point.

3.1. Strategic evolution as result of the convergence towards multiple reference points

Within the industry, not every firm provides information of the same quality, generates the same competitive pressure and exemplifies to the same extent the accepted social behaviors. Consequently, instead of monitoring the whole industry, managers tend to rely on their immediate environment, focusing on different subsets of firms when looking for information about efficient courses of action, when trying to avoid falling behind their rivals, or when seeking to enhance their legitimacy (Chan, Makino and Isobe, 2006; Garcia-Pont and Nohria, 2002; Giachetti and Lanzolla, 2016; Peteraf and Bergen, 2003). In our framework, this has two main implications: (1) managers may pay simultaneous attention to several reference groups, when making choices about the configuration of their strategies and (2) the motives underling the observation process of managers may determine the reference group which is selected as the object of their attention and, in turn, as their imitation target. On that basis, we argue that the strategy of firms partly evolves as a consequence of the imitation of three reference groups, namely, successful firms, direct rivals and firms from the same category. Our contention is that firms imitate successful firms because of information-based motives, to direct rivals as due to rivalry-based motives, and to members from their category because of legitimacy-based motives.

First, knowledge is not equally distributed within an industry, which means that some firms have access to superior knowledge in comparison to others (Knott, Posen and Wu, 2009). In that sense, firms may opt for replicating the strategic behaviors of successful firms under the assumption that they have superior knowledge. Managers, as rational actors, are interested in replicating behaviors that allow their firms to operate with higher efficiency. When searching for efficiency, firms may seek to improve

their strategic configuration by imitating the best firms in the industry, as the value inherent to their actions is taken for granted (Posen, Lee and Yi, 2013). Successful firms often become “fashion leaders” because they are usually perceived as owners of better information (Bikhchandani et al., 1992, 1998). The tendency of firms to replicate the behaviors of others with certain traits, such as a high success, has been a recurrent argument on the imitation literature (Haunschild and Miner, 1997; Giachetti and Lampel, 2010).

Therefore, we argue that information-based motives lead firms to imitate successful firms, as their actions are usually considered a source of information about efficient behaviors and best practices. Accordingly, our first hypothesis argues that:

H1: *Over time, the strategy of firms converges towards the strategic position of successful firms.*

Second, we argue that firms imitate the strategic choices of their direct rivals as an attempt to maintain the competitive status-quo. Intra-industry heterogeneity means that there are differences in the competitive pressure that each firm is able to exert (Chen, Su and Tsai, 2007). These differences lead managers to focus their competitive efforts on a particular group of rivals (Peteraf and Bergen, 2003). When identifying the relevant group of rivals, managers usually pay attention to firms that are close in terms of salient strategic attributes or geographical location, ignoring others that are perceived as more distant players (Lant and Baum, 1995; Porac and Thomas, 1990). In particular, firms are more likely to identify those firms that have similar strategic resources and that operate in the same markets as direct rivals (Chen, 1996). Consequently, imitation to mitigate rivalry should be most commonly found among firms with similar resource endowments and market positions (Lieberman and Asaba, 2006). As rivalry-based motives increase the chance that firms develop imitative behaviors using their direct rivals as the reference target, our second hypothesis posits that:

H2: *Over time, the strategy of firms converges towards the strategic position of direct rivals.*

Third, we contend that firms imitate other firms from the same category as a mean to attain legitimacy. Categorization theory contributes to the institutional theory by helping to identify the reference points that social agents use to shape their expectations about firms (Polos et al., 2002; Hannan et al., 2007). Categories are defined as “*organizational identities, what organizations are expected to be by their members and other social agents*” (Negro et al., 2010:4). Social agents evaluate categories

according to their ideas about what behaviors their members should develop. In practice, this means that each category is usually subject to a particular institutional logic. For instance, whereas local banks are examined from a community logic perspective, national banks are subject to a market logic (Marquis and Lounsbury, 2007). Similarly, in the context of French gastronomy, the institutional logic applied to evaluate *nouvelle cuisine* restaurants differs from that applied to judge *classical cuisine* restaurants (Rao, Monin and Durand, 2003). Firms will be judged as “right” to the extent to which they adopt the precepts associated to the institutional logic of their category (Negro et al., 2010). Consequently, the adoption of the features of the category taken for granted may be interpreted as signal of conformity to social expectations and higher congruence with the institutional logic. This may bring legitimacy advantages such as social acceptance and institutional support (DiMaggio and Powell, 1983; Meyer and Rowan, 1977).

As legitimacy-based motives lead firms to adopt the defining characteristics of their category and, in turn, to imitate the strategic behaviors of others members from the same category, our third hypothesis proposes that:

H3: *Over time, the strategy of firms converges towards the strategic position of the category.*

3.2. The speed of imitation

A key issue in the process of imitation is the speed to which firms replicate the behavior of others (Giachetti et al., 2017; Giachetti and Lanzolla, 2016, OuYang, Cheng and Liu, 2019). The consideration of multiple reference groups allows to improve the knowledge of the process of imitation by exploring differences in the speed to which firms copy the defining behaviors of each group. In this respect, we argue that the speed to which firms imitate successful firms and direct rivals is lower than the speed to which they imitate firms from the same category.

First, in relation to successful firms, their competitive advantages often come from the possession of distinctive resources and capabilities that are difficult to imitate (Wernerfelt, 1984; Barney, 1991; Peteraf, 1993). Moreover, successful firms may be protected by isolating mechanisms, such as patents, that prevent and slow down their imitation (Lieberman and Montgomery, 1988). Second, in relation to direct rivals, imitation may be perceived as a competitive attack by them and, therefore, it may trigger their responses (Smith, Ferrier and Ndofor, 2001). Competitive tension, which is a latent

strain between a firm and a given rival that is likely to result in exchanges of competitive actions, tend to be high between direct rivals (Chen et al., 2007). This means that there is a high chance that direct rivals respond to the competitive moves of the focal firm, including its imitative behaviors. As rivals' responses have a negative effect on the performance of firms (Chen and Miller, 1994; Smith et al. 1991), firms have incentives to limit the potential retaliation of their rivals. Thus, firms may reduce the speed to which they imitate their rivals to limit the perceived aggressiveness of the competitive move and, as a consequence, to hamper the hostility of the imitated rival.

Thus, whereas we argue that the speed of imitation is slow in the case of successful firms as due to limitations in the capacity to replicate their behaviors (Jonsson and Regner, 2009), we sustain that firms imitate direct rivals slowly as a mean to reduce the threat perceived by the imitated firm and, in turn, to avoid escalating the competition (Chen and MacMillan, 1992). Importantly, both mechanisms are not present when the category is the reference point. First, firms usually have a higher capacity to imitate members from the same category because they share similar attributes such as their corporate mission and values. Imitating firms that are similar takes less time and is less costly (McGee and Thomas, 1986). Second, competitive tension among firms from the same category is not necessarily high, as they may operate in different geographical markets and, therefore, not to compete directly for the same resources¹. According to these arguments, we propose that:

H4: *The speed of convergence towards the category is faster than the speed of convergence towards industry leaders and direct rivals.*

3. EMPIRICAL ANALYSIS

3.1. The Spanish retail banking sector

Our research focuses on the Spanish retail banking sector in the period from 1994 to 2009. This sector includes three kinds of agents, namely commercial banks, savings banks, and credit unions. We consider the Spanish retail banking sector to be an appropriate setting in which to test our research hypotheses for three reasons. First, the tendency of banking firms to replicate the behaviors of other

¹ We consider that the difficulty of copying is not the cause of the low speed of imitation in the case of direct rivals because strategic similarity increases the capacity to imitate to them. Likewise, we argue that the fear of retaliation is not the reason of the low speed of imitation to successful firms because competitive tension between them and the focal firms is not usually intense as due to competitive asymmetries (Gómez, Orcos and Palomas, 2020).

firms within the sector has been previously documented in the academic literature (McKendrick, 1995; MacMillan, McCaffery and G. van Wijk, 1985; Haunschild and Miner, 1997). There is also historical evidence of imitative behaviours in the Spanish retail banking sector (Más-Ruiz, Nicolau-Gonzálbez, and Ruiz-Moreno 2005). Second, economic and normative criteria are extremely important for configuring banking activities (Scott and Meyer, 1991; Gómez, Orcos and Palomas, 2014). This means that the provision of financial services is subject not only to efficiency criteria but also to certain social conventions. Third, the environment for Spanish banking firms is heterogeneous, as the geographic dimension is very important in delivering banking services. While some large banks have branches located all over Spain, many banking firms concentrate their activities in a few regions (Nicolau-Gonzálbez and Ruiz-Moreno, 2014). As a consequence, not every firm in the Spanish retail-banking sector is subject to the same environmental factors. On the other hand, banking firms experience specific influences from their own particular environment. Therefore, interpreting our results in terms of similar reactions to common environmental pressures is not reasonable.

3.2. Characterization of strategies in the Spanish retail banking sector

We analyse the evolution of the strategies of firms in the banking sector by considering seven behavioral dimensions that are common to banking strategies. We examine banking strategies according to the scope of operations and the way in which resources are committed. Whereas scope includes decisions regarding the market segment, resource commitment involves the assignment of human, capital, and financial resources (Mehra, 1996; Ferguson, Deephouse, and Ferguson, 2000). The seven behavioral dimensions we have used have been employed in previous studies to analyze the strategic position of Spanish banking firms (Zuñiga et al, 2004; Fuentelsaz and Gómez, 2006; Gómez, Orcos and Palomas, 2017).

We measure the scope of strategic operations using five variables. *Lending activities* (Commercial loans/Financial investments), which is associated with loans to domestic economies and to small and medium-sized firms; *investment banking* (Portfolio of securities/Financial investments), which measures the extent to which a bank is oriented towards active investment in stock markets; *public banking* (Transactions with other financial entities and the public sector/Financial investments), which refers to a bank's propensity to provide financial resources to other financial entities or public

institutions; *net position in the financial system* (Net position in the financial markets/Total liabilities), which measures the bank's position in the interbank market, capturing the extent to which a bank obtains funds from this market; *savings* (Private-sector saving and deposits accounts /Total liabilities), which is associated with a banking strategy of offering standard classical financial products. Likewise, we capture resource commitment using two variables: *human capital* (Personnel expenses/Operating income), which measures the importance of human capital to the bank, and *risk* (Net insolvencies/Operating income), which captures loans with a low probability of recovery and seeks to approximate the risk profile of each firm.

While *lending activities*, *investment banking*, and *public banking* focus on the investment behaviors of banks, *net position in the financial system* and *savings* are used to indicate the process by which these firms obtain resources. *Human capital* shows the extent to which banking firms commit human resources to the development of their daily activities, and *risk* reflects the firms' risk profile. Our empirical analysis examines the pattern of convergence towards different reference groups by looking at each of the seven behavioral dimensions individually. This makes possible for us to identify the dimensions on which banks are imitating other firms and the dimensions they do not consider when making strategic choices.

3.3. Identification of reference points within the Spanish retail banking sector

In this research, we focus on the three specific types of reference point that guide the evolution of firms' strategies—namely successful firms, direct rivals, and categories – and we discuss each of these in turn below in relation to the Spanish banking sector.

3.3.1. *The most successful firms*

We consider the largest firms within the industry to be the most successful firms. Large firms have superior resources and are usually seen as stronger rivals (Barnett, 1997; Chen et al., 2007). In addition, firm size tends to be associated with higher profitability (Hall and Weiss, 1967). Consistent with previous research on the banking sector, we measure size in terms of total assets (Barron, West, and Hannan, 1994; Haveman, 1993). We rank all the firms in our sample according to their total assets for each year of the observation window. Banco Santander and BBVA rank consistently in the first two

positions, which means that they are the largest firms throughout the whole period². We assume that these two banks are used as reference points when firms look for information about efficient courses of action.

Banco Santander and BBVA are also distinguished by their extensive network of branches. They operate across all the Spanish provinces, and this gives all other banking firms opportunities to observe their behavior directly. Being able to observe efficient practices is a prerequisite for replicating them. In addition, Banco Santander and BBVA develop their activities using the same strategic approach. There are no statistically significant differences between the seven dimensions that compose the strategies of the two banks³. The fact that they have the same strategic profile makes it easier for all the banks of the sector to identify successful courses of action.

3.3.2. Direct rivals

Using imitation as a way of mitigating rivalry is most commonly found among firms with similar resource endowments and market positions (Lieberman and Asaba, 2006). As a consequence, we identify direct rivals on the basis of similarity and market overlap. In particular, we consider firms to be direct rivals when they are similar in size and compete with one another in at least 10 percent of their geographical markets. In terms of similarity, most firms in the Spanish retail banking sector typically compete with other firms of the same size (Gómez et al., 2014). Banks of the same size develop similar lending activities (Delgado, Salas, and Saurina, 2007), target the same groups of customers (Berger et al., 1995, 2005; Haynes, Ou, and Berney, 1999), and select the same locations within towns and regions (Brickley, Linck, and Smith, 2003). As a consequence, banks of the same size compete directly for resources and customers. Following previous studies on the retail banking sector, we divide firms into three groups: large, medium, and small. We use the following thresholds to classify banking firms: total assets < 4,450 million euros for small banks; total assets between 4,450 million and 21,500 million euros for medium banks; and total assets > 21,500 million euros for large banks (constant euros

²Banco Santander was classified as the third largest firm in 1997 and 1998. During the rest of our observation window the bank was ranked in the second position.

³ The results of these tests are available from the authors upon request.

of 1991) (Gómez et al., 2014; Más-Rui et al., 2005; Más-Ruiz and Ruiz-Moreno, 2011)⁴. As an illustration, in the last year of our observation window (2009), our sample is composed of 13 large banks, 36 medium banks, and 81 small banks.

Market overlap refers to the degree to which a rival is active the market domain of the focal firm. A basic feature of the banking sector is that markets are geographically bounded (Radecki, 1998). This means that branches only compete with the other branches that are in their proximity. We therefore measure market overlap at the ZIP code level, which is the smallest geographical area that can be consistently identified in Spain. Although ZIP codes were established as a way of organizing postal services by dividing the national territory into a series of smaller local areas, they also allow one to identify geographic zones that are functionally proximate. As an illustration, in the last year of our observation window there were bank branches in 5,913 different ZIP codes, and the average number of ZIP codes served by a bank was 246. For a firm to be defined as a rival, we require that it operates at least in the 10 percent of the ZIP codes in which the focal firm is present⁵.

To sum up, we consider as direct rivals those firms that are classified in the same group of size that the focal firm and that operate, at least, in the 10% of its geographical markets. We identify the group of rivals that the focal firm faces for each of the years in our observation window. We argue that each banking firm adjusts its strategic position to that of its particular group of rivals. We assume that the focal firm experiences a high degree of competitive tension from similar firms that operate in the same geographical markets (Chen, 1996). Since the potential for actual rivalry among direct rivals is high, we argue that convergence towards rivals can be explained by rivalry-based motives.

3.3.3. Categories

We consider commercial banks, savings banks, and credit unions to be the social categories within the industry. Note that the three types of agent are externally established categories and that a banking firm can only belong to one specific category. We argue that each type of agent is subject to specific

⁴In Más-Ruiz et al. (2005) and Más-Ruiz and Ruiz-Moreno (2011) size categories are defined in terms of total deposits and total loans. Instead, we define size in terms of total assets. However, our classification does not differ substantially from these studies.

⁵ Our conclusions are qualitatively the same when we consider a cut-off value of 5%. These estimations are available from the authors upon request.

institutional pressures as a result of several mechanisms. First, banking regulations traditionally restricted the activities that each group was allowed to carry out. During the period of regulation, there were different restrictions on firm entry, the number of branches banks could open, and activities that could be undertaken for commercial banks, saving banks, and credit unions (Mañas, 1992; Gual, 1992). This determined the strategic orientation of each group. For instance, while commercial banks developed their activities to have a national scope, saving banks confined their branches to certain geographical areas (Fuentelsaz, Gomez and Polo, 2002). Credit unions were oriented to rural areas and to providing financial services for specific professions. The process of deregulation gradually removed many of these restrictions, thereby increasing the interaction between the different types of agent. Regulatory differences between Spanish banking firms had virtually disappeared by 1990, and today each type of agent may potentially develop the same set of activities. As a consequence, the three types of agents became direct competitors (Coello, 1994)⁶. Despite deregulation, the perception that there are differences in the approach used to deliver banking services by each type of agent still persists (Gómez et al., 2014).

Second, the mission of firms, and their traditional links to different institutions such as local government or the Church, tended to be very similar for firms within each group, but to differ between groups. This made it easier for stakeholders to identify these three types of banking firm as being different from one another (Baron, 2004; McKendrick and Carroll, 2001). Third, different linguistic labels are used for each kind of banking firm. These labels are used in a systematic way by external audiences such as the media or the general public (Hsu and Hannan, 2005). Fourth, there are certain institutions that reinforce the sense that these are different types of banks. For instance, the three social categories have their own professional association: AEB (Asociación Española de Banca) for commercial banks, CECA (Confederación Española de Cajas de Ahorros) for saving banks, and UNACC (Unión Nacional de Cooperativas de Crédito) for credit unions. Professional associations reinforce the identity of particular sets of firms (DiMaggio and Powell, 1983; McKendrick et al., 2003).

⁶ The national classification of economic activities locates firms in the banking industry in class “6419. Other monetary intermediation”. Consequently, commercial banks, saving banks, and credit unions operate in the same industry

As a consequence of these four mechanisms, it could be argued that commercial banks, saving banks, and credit unions share a strong “macroculture” and a sense of identity (Abrahamson and Fombrun, 1994). Each type of firm represents the natural comparison group for managers when they try to adjust to social conventions, since they are subject to the same specific demands from their institutional environment. As an illustration, in the last year of our observation window (2009), our sample is composed of 38 commercial banks, 45 saving banks and 47 credit unions.

3.4. Sample

As we have indicated, our emphasis is on retail banking. However, some banking firms within the sector operate in a specific, very narrow, segment. First, there are a number of investment banks that offer specialized investment services to high-end customers. They have a small network of branches, as they only provide their services through two or three offices, located in major cities. Second, some banking firms offer their services only to specific groups of customers, mainly to farmers in a small and closely defined area. Highly specialized investment banks, and banking firms which focus entirely on rural areas, do not offer their services to the wider public, and therefore do not fit into a general definition of retail banking. These firms neither compete with the other banks on the same terms, nor configure their strategies according to the dimensions used in this research. Therefore, in order to exclude these firms from our analysis, we omit any firm whose branch network does not have at least five branches in at least one of the years of the observation window. In spite of these exclusions, our sample is highly representative of the sector. For 2009 it represents 90 percent of the total assets in the sector.

The number of firms of our sample ranges from 130, in 2009, to 184, in 1994. The mergers and acquisitions taking place during the period explain the reduction in the number of firms. We use this sample to explore convergence towards the category; however, we need to adapt the sample slightly in order to explore convergence towards the most successful firms and towards the group of direct rivals. In the first case, since the strategic position of Banco Santander and BBVA is treated as the reference point, we remove both firms from the sample. In the second case, we do not consider those banking firms that are not competing with any of their rivals at least in 10 percent of their geographical markets. There is not sufficient market overlap between these firms to assume that there is competitive tension between them. As our aim is to analyze rivalry-based imitation, we eliminate these firms from the

original sample. This entails excluding 28 banking firms, most of which are small credit unions that concentrate their activities in very specific areas of the country. As a consequence, the number of firms in the sample used to study convergence towards direct rivals ranges from 102 to 156. Table I-a provides descriptive statistics of the sample excluding the most successful firms, Table II-a offers descriptive statistics for the firms in the sample that uses direct rivals as reference groups, and Table III-a provides descriptive statistics for the firms of the sample considering convergence towards social categories.

 Insert Table I-a, Table II-a and Table III-a around here

The data used in this research come from several sources. First, we gather the information about the dimensions of banking strategies from financial statements published annually by the various trade associations in the sector. Second, the information on market-level factors comes from the Spanish National Institute of Statistics (INE)⁷. Finally, we obtain the addresses of all bank branches in Spain from the *Guia de la Banca, Cooperativas de Crédito y Cajas de Ahorro*, which is published annually by Editorial Maestre Ediban. This provides us the location of bank branches at the ZIP code level, which is required to measure market overlap and identify which firms are direct rivals.

3.5. Method

We estimate a fixed-effects model that adopts the following form:

$$(1) \quad Y_{i,j,t+1} = Y_{i,j,t} + \beta_i (G_{k,j,t+1} - Y_{i,j,t}) + Z_i + \varepsilon_i$$

where $Y_{i,j,t+1}$ represents the strategic dimension j of the firm i at time $t+1$, and $Y_{i,j,t}$ is the strategic dimension j of the firm i at time t . $G_{k,j,t+1}$ is the strategic dimension j of the benchmark k at time $t+1$. Since we are exploring imitation of three different reference groups, we focus on three types of benchmark. First, for the seven strategic dimensions we measure strategic convergence towards the mean value of the group of the most successful firms. Second, for each strategic dimension we explore strategic convergence towards the mean value of the group of direct rivals. Finally, for the seven

⁷ The data on the financial statements is publicly available from the webpages of CECA (www.ceca.es), AEB (www.aebanca.es) and UNACC (www.unacc.com). Information on market-level factors may be accessed through (www.ine.es).

strategic dimensions we analyze strategic convergence towards the mean value of firms in the same category.

In our model, β_i represents firms' speed of imitation of the reference target. When β is significant and falls between 0 and 1, it indicates that firms are making an adjustment towards their reference points. The closer β is to 1, the faster the speed of imitation of the benchmark will be (a value of 1 would imply instantaneous imitation). On the contrary, if β is significant and greater than 1 or less than 0, it indicates that firms are moving away from their reference point. In our research, this means that firms determine their strategies by differentiating themselves from their reference points.

In the model, Z_i represents a set of control variables. We introduce the variables *inefficiency* and *profitability*. *Inefficiency* is a specific control for the banking sector. It is calculated as the ratio of operating costs to ordinary margin and is inversely related to the efficiency of the bank (Carbó, del Paso, and Fernández, 2003). *Profitability* is the return on assets (ROA). It is measured as the ratio of returns before taxes over total assets (in percentage points). Inefficient firms or firms with a low profitability are more likely to modify their strategic position in order to improve their situation. Our model also controls for the chances of observing the behaviors of other firms by introducing the variables *branches* and *geographical presence*. For *branches* we count the number of offices through which the banking firm offers financial services, and *geographical presence* is the number of Spanish provinces in which a particular bank is operating. The higher the value of both variables, the greater the chances that a bank will be able to observe the strategic behaviors of other firms.

We also consider the geographic dimension of imitation by considering the degree of multimarket contact that banking firms have with the members of each reference group (Fuentelsaz and Gómez, 2006). We proxy multimarket contact as the average number of markets in which a given firm competes with other firms. We calculate multimarket contact as follows:

$$MMC_i = \frac{\sum_j \sum_n (D_{in} * D_{jn})}{\sum_j D_j}$$

where j refers to a certain *firm* and n refers to a geographical market. First, D_{in} is a dummy variable that takes value of 1 if bank i operates in market n , and 0 otherwise. Second, D_{jn} is a dummy variable that takes value of 1 if firm j operates in market n , and 0 otherwise. Finally, D_j is a dummy that

takes a value of 1 for firms that firm i competes with in at least one geographical market. As banking activities are geographically bounded (Radecki, 1998), we use ZIP codes to define market boundaries. The variable *multimarket contact with successful firms* is calculated by measuring the average number of markets in which the focal firm meets any of the most successful firms within the sector. *Multimarket contact with direct rivals* measures the average number of ZIP code areas in which the focal firm coincides with each of its direct rivals. Finally, *multimarket contact with category members* looks at the average number of geographical markets in which the focal firm meets with each of the firms that belong to the same category. The three variables are expressed in relation to the overall multimarket contact of the focal firm.

In addition, our model takes into account the attractiveness of the geographical markets in which banking firms operate by introducing the variable *unemployment*. This is calculated as the average unemployment rate of the provinces in which the focal firm develops its activities. We also include the variables *crisis* and *temporal trend*. Whereas the first is a dummy variable that takes the value of 1 for periods of economic recession (1994 to 1995, and 2008 to 2009) and 0 otherwise, the second is a linear time trend that controls for contemporary shocks common to all the firms in the sector. Finally, ε_i is an error term assumed to meet the requirements of the least-squares model. Our standard errors are robust to heteroscedasticity and autocorrelation.

To improve the specification of our model and the quality of the estimation procedure, we use a logarithmic transformation of the strategic dimensions. Given that in some cases the value of the strategic dimension can be zero, we add 1 to each variable to avoid calculating the logarithm of a null value. We estimate our model for each of the seven strategic dimensions. As we use three different benchmarks, we estimate 21 panel data regressions: seven to analyze convergence towards successful firms, seven to analyze convergence towards direct rivals, and seven to examine convergence towards categories. We run the model for each type of reference group because, as explained, the sample is different in each case.

4. RESULTS

First, we analyze imitation to successful firms within the Spanish banking sector. Table I-b shows the results of these estimations. Hypothesis 1 argued that firms tend to imitate the strategic

behaviors of successful firms. Our results show a statistically significant coefficient that falls between 0 and 1 for six of the seven strategic dimensions we analyzed. This means that banking firms adjust their strategies to almost all the strategic variables of successful firms. Our first hypothesis is therefore supported.

Table I-b around here

Second, we analyze imitation to direct rivals. Table II-b shows the results of these estimations. Hypothesis 2 proposed that firms replicate the typical behavior of the group of direct rivals. We find a statistically significant coefficient that falls between 1 and 0 for five of the seven strategic dimensions. This provides evidence of a high convergence towards the strategic position of direct rivals and therefore confirms our second hypothesis.

Table II-b around here

Third, we examine imitation to the category. Table III-b shows the results of our estimations. Hypothesis 3 stated that firms copy the typical behavior of their category. We find a statistically significant coefficient that falls between 0 and 1 for all the strategic dimensions. Therefore, our third hypothesis is supported.

Table III-b around here

After exploring how the imitation of several reference groups shapes the configuration of the strategy of firms, we focus on analyzing the speed of imitation. Our hypothesis 4 states that the focal firm imitates faster to the firms that belong to its own category than to its direct rivals and successful firms. By looking together Tables I-b, II-b and III-b, our results show important differences in the speed of convergence to each reference group. Whereas the average speed of imitation of successful firms is 0.30, the average coefficients of the speed of imitation to direct rivals and firms in the same category

are 0.32 and 0.63 respectively. This evidences that the speed to which firms replicate the defining behavior of their categories is higher than the speed to which they copy their rivals and successful firms. Therefore, hypothesis 4 is supported.

4.1. Robustness tests

In this section, we perform several additional analyses with the aim of excluding alternative explanations for our results. First, to ensure that similarity and multimarket contact are not the drivers of convergence towards the category, we replicate our estimations by using two subsamples. In the first subsample, we focus on the most strategically dissimilar firms within the sector. We identify them as those firms that rank above the 75 percentile for each of the seven strategic dimensions. For this calculation, we used all the firms in the sample. We select a specific subset of dissimilar banking firms for each strategic dimension. In the second subsample, we focus on firms which are competing with other firms from the same category in only a small number of geographical markets. We identify them as firms that rank below the 25 percentile of the variable multimarket contact with the category. Again, we calculated the percentile by considering all the firms in the sample. These robustness tests are shown in Table IV. Our results show that dissimilar firms and firms with a low level of the variable multimarket contact also converge towards the typical behavior of their category. This excludes similarity-based imitation and geographical-based imitation as potential causes of convergence towards this reference point.

The estimations for dissimilar firms deserve further attention. We find that dissimilar firms converge towards those in their category on four out of the seven strategic dimensions, but they diverge on investment activities, on the importance attached to human resources, and in the degree of risk assumed in their operations.

Insert Table IV around here

Second, to ensure that convergence towards the most successful firms is not driven by institutional factors or legitimacy concerns, we replicate our estimations by removing commercial banks from the sample. Firms may imitate successful firms within their own category in order to acquire a

higher status (Fombrun and Shanley, 1990). In other words, commercial banks might replicate the strategic choices of Banco Santander and BBVA to gain strong institutional support, rather than to improve their efficiency. Table V shows that, despite belonging to a different category, savings banks and credit unions clearly converge towards the strategic position of Banco Santander and BBVA. Since the society has different expectations of savings banks and credit unions than it has of commercial banks, our robustness test confirms that imitation of the most successful firms is guided by economic rationality, rather by institutional expectations.

Insert Table V around here

5. DISCUSSION

Whereas economic rationality states that managers make decisions based on a desire for technical or efficiency gains (Kraatz and Zajac, 1996), normative embeddedness emphasizes that managers need to take account of external audiences' expectations when deciding what action to take (DiMaggio and Powell, 1983; Meyer and Rowan, 1977). By integrating the economic rationality and normative embeddedness perspectives, our research proposes that managers, aiming at responding to both economic and normative pressures, tailor the configuration of their strategies according to the behaviors that they observe in three reference groups. In particular, we contend that firms tend to replicate the behavior of successful firms and direct rivals as an attempt to satisfy economic demands, whereas they tend copy to other firms from their own category as a mean to respond to normative pressures. Our results reveal that the three reference groups considered in this research influence how the strategies of firms evolve, as we find that over time firms strategically converge to the strategic position occupied by successful firms, direct rivals and firms from the same category. By shedding light on the evolution pattern that the strategic configuration of firms follows, our findings contribute to deepen the knowledge on the dynamic view of strategy (Porter, 1991). Moreover, our results enrich previous literature on imitation that focuses on specific strategic choices, by providing empirical evidence on imitative behaviors that affect the overall strategy of firms (Chan, Makino and Isobe, 2003; Greve and Seidel, 2015; Pitsakis and Giachetti, 2019; Westphal, Gulati and Shortel, 1997).

Our research also explores potential variations in the speed of imitation. In particular, it shows that the speed of imitation to other firms substantially varies depending on the reference group that it is imitated. Firms are considerably faster at conforming to the standard behavior of firms in their own category than at converging towards the strategic position of successful firms or direct rivals. Previous studies have also analyzed the speed of imitation by considering more than one reference group. For instance, Giachetti and Lampel (2010) measure the speed of imitation to the average behavior of all the firms in the industry and to the market leader. Likewise, Giachetti and Lanzolla (2016) study the speed of imitation to both the market leader and to firms in the same strategic group. The reference groups that are considered in these studies are likely used as reference points when managers aim at satisfying economic pressures. However, they may not be necessarily used as reference points when managers seek to respond to the particular expectations that the society has about their firms. By including the categories as an additional reference point, our research allows considering legitimacy-based imitation and, therefore, better integrating the economic and the normative embeddedness perspectives when examining imitation of multiple reference groups.

Our study opens the door to several future research lines. For instance, one area in which improvement is called for is how the extent of imitation impacts on performance (Barreto and Baden-Fuller, 2006). This research tackles the first question by analyzing how firms imitate the three different reference points. However, it does not examine the effect that convergence towards successful firms, direct rivals, and categories has on firm performance. On the one hand, the imitation of strategic choices made by successful firms and by direct rivals could positively affect firm performance, since it provides a way of matching efficient courses of action and it might enforce tacit collusion. On the other hand, regarding convergence towards categories, empirical research has shown that conformity may sometimes come into conflict with efficiency, and it can therefore be obtained at the expense of performance (Barreto and Baden-Fuller, 2006). Future research should examine the extent to which the imitation of the three considered reference points determines firm performance.

The convergence towards the category that we detect in the Spanish retail banking sector deserves special attention. The liberalization of the sector reduced formal institutional pressures, and at the same time diminishing the differences in the activities carried out by commercial banks, savings

banks, and credit unions (Coello, 1994). As a result, liberalization expanded the range of strategic alternatives for each category (Gómez et al., 2014). In spite of the potential for adopting new behaviors and diverging from the category, our results show that commercial banks, saving banks, and credit unions have continued to adjust their strategies towards the standard behavior of their respective groups. This demonstrates that informal institutions play an important role in the pattern of normative convergence and that firms still seem to have incentives to respond to informal pressures from external audiences, such as professional associations, consumers, or the media. The need to conform to informal expectations about how they should behave could explain why we see convergence towards the categories rather than divergence. To explore this topic further, future research could examine how the interplay between formal and informal institutions influences normative embeddedness, differentiation, and the pressure to conform to organizational templates of behavior.

Our research does not examine how different types of firm converge towards reference groups. For instance, the degree of convergence towards the category could be lower for the most efficient firms. Firms that have demonstrated a high level of internal effectiveness may also be recognized as acceptable and receive external support, even if they substantively deviate from institutional norms (Volberda et al., 2012). Given that we know that managers make their decisions by paying attention to successful firms, direct rivals, and categories, future research could focus on analyzing differences in the pattern of convergence in terms of firm characteristics such as size, profitability, or social status, or external factors such as economic crises or regulation processes.

Finally, extending our research might be a useful way of refining knowledge on the strategic balance perspective and on cooptation literature. First, the strategic balance perspective shows that those firms that obtain a balance between similarity and differentiation are better off (Porac, Thomas and Baden-Fuller, 1989; Deephouse, 1999; Zhao et al., 2017). Generally, the “competitive cusp” has been identified with respect to a single reference point. For instance, Deephouse (1999) considers the average strategic behavior within the banking industry. Our paper improves the understanding of strategic positioning by showing that the situation is more complex, and that firms use more than one reference point. Future research could focus on finding the “competitive cusp” by simultaneously considering successful firms, direct rivals, and categories. To explore the performance consequences of

achieving strategic balance between multiple reference points would be interesting. Moreover, the strategic balance perspective focuses on the consequences of strategic similarity, without considering its origin. In other words, it does not explain whether similarity is the result of intentional imitation or whether it arises as a consequence of firms offering the same responses to external contingencies. Therefore, the causes of similarity could be considered in future studies.

Second, coopetition literature explores the dynamic process by which firms cooperate to create value, while they simultaneously compete to capture it (Bouncken et al. 2015). A relevant question in this research field is how firms choose their coopetition partners and how the consequences of coopetition vary depending on this choice (see, for instance, Lo and Hung, 2019, and Kraus et al., 2018). The consideration of the three reference groups that this research contemplates might contribute to improve our knowledge on this issue. Since the dynamics of collaboration and competition may substantively differ among successful firms, direct rivals or category members, future studies on coopetition might pay attention to both how the coopetition process is articulated within each reference group and to how coopetition takes place between members of different reference groups. For example, the analysis could focus on how rivals with symmetric/asymmetric competitive positions cooperate and compete at the same time, which is an area that still calls for research (Bouncken et al., 2015, Hora et al., 2018). Finally, the consideration of the category, which is one of the reference points that this research analyzes, may enrich coopetition literature by introducing arguments related to legitimacy search (Suchman, 1995). Legitimacy concerns might shape the choice of the coopetition partners and, thus, the results of coopetition.

To conclude, it is important to highlight that there are several implications that practitioners may draw from our research. Our study shows that imitation is a strategic alternative that may help managers to satisfy to both economic and normative pressures. When this alternative is applied, the selection of the firms to which imitate is a key issue. Our contention is that managers should identify the firms that will be imitated regarding their goals. If the goal is implementing efficient practices, managers may copy the choices of the most successful firms within the industry. If the goal is avoiding being relegated in the competitive game, managers may replicate the behaviors of their direct rivals. Finally, if the goal is achieving social approval and legitimacy, managers may copy the behaviors of the firms that belong

to the same category. In essence, our research proposes that managers may take advantage of simultaneously monitoring several reference groups, rather than exclusively focusing on a single one.

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Table I-a: *Descriptive statistics and correlations. Sample of convergence towards successful firms*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Mean	0.21	0.02	0.11	0.09	0.02	0.24	0.06	0.67	1.00	225.59	4.28	10.93	14.60	0.25	7.94
S.D.	0.06	0.02	0.06	0.03	0.02	0.06	0.06	0.61	2.10	455.86	2.46	14.22	6.56	0.43	4.58
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-10.76	-25.21	1.00	0.00	1.00	3.02	0.00	1.00
Maximum	0.30	0.25	0.30	0.42	0.26	0.30	0.30	12.63	59.01	5512.00	13.76	50.00	38.62	1.00	16.00
1. Lending activities	1.00														
2. Investment banking	-0.17	1.00													
3. Public banking	-0.95	-0.10	1.00												
4. Human capital	-0.02	-0.03	0.05	1.00											
5. Risk	0.05	-0.03	-0.02	0.11	1.00										
6. Savings	0.09	-0.05	-0.02	0.22	-0.05	1.00									
7. Net position	0.03	0.03	-0.09	-0.30	-0.06	-0.91	1.00								
8. Inefficiency	-0.10	0.01	0.09	0.41	0.09	-0.06	0.01	1.00							
9. Profitability	0.06	0.00	-0.05	-0.17	-0.03	0.06	-0.09	-0.22	1.00						
10. Branches	0.08	0.17	-0.11	-0.10	-0.03	-0.07	0.16	-0.05	-0.02	1.00					
11. Multimarket contact with successful firms	0.06	0.18	-0.09	-0.12	-0.02	-0.17	0.30	-0.02	-0.02	0.64	1.00				
12. Geographical presence	-0.01	0.13	-0.02	-0.15	-0.09	-0.31	0.45	0.01	-0.07	0.60	0.78	1.00			
13. Unemployment	-0.23	-0.21	0.32	-0.08	0.04	-0.01	-0.06	0.00	0.04	-0.03	0.00	-0.03	1.00		
14. Crisis	-0.10	-0.18	0.15	-0.23	-0.05	0.03	0.01	-0.03	-0.05	0.00	-0.02	0.03	0.44	1.00	
15. Temporal trend	0.47	0.07	-0.55	0.03	-0.22	0.07	0.11	0.01	-0.12	0.10	-0.02	0.09	-0.54	-0.08	1.00

Table I-b: Estimations of convergence towards successful firms

	Lending activities	Investment banking	Public banking	Human capital	Risk	Savings	Net position
Strategic dimension_{t-1}	0.614*** (8.95)	0.670*** (11.66)	0.951*** (21.52)	1.522*** (33.69)	0.609*** (12.71)	0.734*** (17.27)	0.725*** (17.43)
Convergence towards the reference point	-0.114** (-2.40)	0.229*** (7.16)	0.272*** (5.72)	0.926*** (27.32)	0.239*** (5.24)	0.0549** (2.10)	0.0803*** (3.78)
Inefficiency^a	0.355 (0.49)	0.153 (0.17)	-0.680 (-0.68)	0.0465 (0.04)	0.974* (1.90)	-0.860 (-0.96)	0.307 (0.35)
Profitability^a	-0.122 (-0.72)	0.0664 (0.31)	0.113 (0.49)	0.00428 (0.02)	0.218 (0.91)	-0.145 (-0.82)	0.0389 (0.20)
Branches^a	-0.000546 (-0.28)	-0.00513** (-2.34)	0.000904 (0.29)	-0.000267 (-0.17)	0.000199 (0.10)	-0.00403** (-2.19)	0.00567** (2.10)
Multimarket contact with successful firms^a	1.58 (1.31)	-0.736 (-1.06)	-1.91** (-2.00)	0.367 (0.70)	0.896 (1.37)	1.83** (2.09)	-1.49 (-1.41)
Geographical presence^a	0.350*** (2.64)	-0.00115 (-0.01)	-0.343*** (-2.78)	-0.0315 (-0.56)	-0.0321 (-0.39)	-0.0296 (-0.25)	0.124 (0.86)
Unemployment^a	0.181 (1.08)	-0.162 (-1.37)	-0.526*** (-2.88)	0.0553 (0.44)	-0.728*** (-5.35)	-0.136 (-1.01)	0.253 (1.45)
Crisis^a	-7.82*** (-7.56)	0.210 (0.25)	8.69*** (6.71)	3.81*** (3.77)	-0.225 (-0.27)	1.39 (1.49)	-2.94** (-2.07)
Temporal trend^a	1.19*** (3.93)	-0.894*** (-6.55)	-0.0169 (-0.06)	0.985*** (7.86)	-1.26*** (-8.26)	0.0280 (0.23)	0.795*** (3.67)
Observations	2185	2185	2185	2185	2185	2183	2185
Adj. R²	0.762	0.195	0.764	0.636	0.198	0.444	0.465

t statistics in parentheses. Standard errors robust to heteroscedasticity and autocorrelation

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

^a Variable divided by 1000

The variable *Convergence towards the reference point* is measured as $(G_{k,j,t+1} - Y_{i,j,t})$, where $Y_{i,j,t}$ is the strategic dimension j of the firm i at time t . $G_{j,k,t+1}$ is the strategic dimension j of the benchmark k at time $t+1$.

Table II-a: *Descriptive statistics and correlations. Sample of convergence towards direct rivals*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Mean	0.21	0.02	0.11	0.08	0.02	0.23	0.07	0.68	1.00	264.33	2.54	12.86	14.78	0.26	7.87
S.D.	0.06	0.02	0.06	0.03	0.02	0.06	0.07	0.66	2.28	473.98	2.60	15.00	6.50	0.43	4.57
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-10.76	-25.21	1.00	0.00	1.00	4.55	0.00	1.00
Maximum	0.30	0.25	0.30	0.42	0.26	0.30	0.30	12.62	59.01	3798.00	42.99	50.00	38.61	1.00	16.00
1. Lending activities	1.00														
2. Investment banking	-0.16	1.00													
3. Public banking	-0.94	-0.12	1.00												
4. Human capital	-0.05	-0.03	0.08	1.00											
5. Risk	0.07	-0.02	-0.04	0.10	1.00										
6. Savings	0.04	-0.04	0.03	0.20	-0.05	1.00									
7. Net position	0.06	0.03	-0.12	-0.29	-0.06	-0.91	1.00								
8. Inefficiency	-0.11	0.00	0.10	0.41	0.10	-0.05	0.00	1.00							
9. Profitability	0.08	-0.01	-0.07	-0.17	-0.03	0.07	-0.10	-0.22	1.00						
10. Branches	0.02	0.33	-0.09	-0.16	-0.03	-0.13	0.22	-0.08	-0.02	1.00					
11. Multimarket contact with direct rivals	-0.05	0.19	0.03	-0.12	0.00	-0.02	0.05	-0.07	0.03	0.43	1.00				
12. Geographical presence	-0.03	0.19	-0.01	-0.18	-0.09	-0.32	0.45	-0.02	-0.07	0.65	0.27	1.00			
13. Unemployment	-0.22	-0.20	0.31	-0.08	0.04	0.00	-0.08	-0.01	0.05	-0.05	0.09	-0.05	1.00		
14. Crisis	-0.11	-0.18	0.16	-0.22	-0.03	0.02	0.01	-0.02	-0.05	0.00	0.08	0.03	0.45	1.00	
15. Temporal trend	0.43	0.11	-0.51	0.02	-0.20	0.04	0.13	0.01	-0.11	0.11	-0.14	0.12	-0.57	-0.10	1.00

Table II-b: Estimations of convergence towards direct rivals

	Lending activities	Investment banking	Public banking	Human capital	Risk	Savings	Net position
Strategic dimension $t-1$	0.698*** (9.82)	0.833*** (9.27)	0.794*** (16.50)	0.791*** (15.89)	1.228*** (16.17)	0.662*** (13.39)	0.780*** (15.88)
Convergence towards the reference point	-0.0280 (-1.09)	0.399*** (5.20)	0.0918** (2.39)	0.139*** (3.28)	0.843*** (9.57)	-0.0291 (-1.29)	0.131*** (2.98)
Inefficiency^a	0.467 (0.61)	0.114 (0.13)	-0.767 (-0.75)	0.390 (0.32)	0.566 (1.08)	-0.779 (-0.86)	-0.0216 (-0.02)
Profitability^a	-0.172 (-0.95)	0.126 (0.58)	0.188 (0.74)	-0.0547 (-0.20)	0.175 (0.74)	-0.197 (-1.03)	0.0789 (0.39)
Branches^a	0.00293 (1.12)	-0.00837** (-2.44)	0.00134 (0.35)	-0.00345 (-1.45)	-0.00176 (-0.65)	-0.00273 (-0.54)	-0.00649 (-1.20)
Multimarket contact with direct rivals^a	-0.138 (-1.19)	0.133 (0.88)	-0.0560 (-0.32)	-0.0193 (-0.19)	-0.298*** (-2.59)	0.0112 (0.11)	-0.00459 (-0.03)
Geographical presence^a	0.483** (2.24)	-0.205 (-1.60)	-0.460*** (-2.95)	-0.121 (-1.60)	-0.0207 (-0.20)	0.123 (0.71)	-0.0382 (-0.19)
Unemployment^a	0.251 (1.42)	-0.323*** (-2.59)	-0.0990 (-0.50)	0.606*** (3.63)	-0.719*** (-4.88)	-0.311** (-2.04)	0.619*** (3.03)
Crisis^a	-8.10*** (-6.48)	-2.59*** (-2.81)	11.6*** (8.28)	-6.92*** (-6.13)	-0.214 (-0.23)	2.46** (2.28)	-3.23** (-2.00)
Temporal trend^a	0.783** (2.46)	-0.302** (-1.99)	-0.931*** (-2.92)	0.128 (0.68)	-1.15*** (-6.61)	-0.293* (-1.85)	1.50*** (6.43)
Observations	1824	1824	1824	1824	1824	1822	1824
Adj. R²	0.733	0.193	0.739	0.474	0.213	0.443	0.477

t statistics in parentheses. Standard errors robust to heteroscedasticity and autocorrelation

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

^a Variable divided by 1000

The variable *Convergence towards the reference point* is measured as $(G_{k,j,t+1} - Y_{i,j,t})$, where $Y_{i,j,t}$ is the strategic dimension j of the firm i at time t . $G_{j,k,t+1}$ is the strategic dimension j of the benchmark k at time $t+1$.

Table III-a: *Descriptive statistics and correlations. Sample of convergence towards the category*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
Mean	0.21	0.02	0.11	0.09	0.02	0.24	0.06	0.67	1.00	261.24	0.91	11.44	14.59	0.25	7.95	
S.D.	0.06	0.02	0.06	0.03	0.02	0.06	0.06	0.61	2.09	550.89	0.47	14.81	6.54	0.43	4.58	
Minimum	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-10.76	-25.21	1.00	0.00	1.00	3.02	0.00	1.00	
Maximum	0.30	0.25	0.30	0.42	0.26	0.30	0.30	12.63	59.01	5512.00	2.21	50.00	38.62	1.00	16.00	
1. Lending activities	1.00															
2. Investment banking	-0.18	1.00														
3. Public banking	-0.94	-0.10	1.00													
4. Human capital	-0.01	-0.05	0.05	1.00												
5. Risk	0.05	-0.03	-0.02	0.11	1.00											
6. Savings	0.10	-0.09	-0.02	0.23	-0.05	1.00										
7. Net position	0.02	0.07	-0.08	-0.30	-0.06	-0.91	1.00									
8. Inefficiency	-0.10	0.00	0.09	0.41	0.09	-0.05	0.01	1.00								
9. Profitability	0.06	0.00	-0.05	-0.17	-0.03	0.06	-0.09	-0.22	1.00							
10. Branches	0.03	0.29	-0.09	-0.13	-0.03	-0.13	0.21	-0.06	-0.03	1.00						
11. Multimarket contact with category members	-0.04	0.10	-0.01	-0.12	-0.08	-0.38	0.45	0.09	-0.05	0.23	1.00					
12. Geographical presence	-0.03	0.19	-0.01	-0.17	-0.09	-0.34	0.47	0.00	-0.07	0.64	0.50	1.00				
13. Unemployment	-0.23	-0.21	0.33	-0.07	0.04	-0.01	-0.06	0.00	0.04	-0.04	-0.02	-0.03	1.00			
14. Crisis	-0.10	-0.18	0.15	-0.23	-0.05	0.03	0.01	-0.03	-0.05	0.00	0.04	0.02	0.44	1.00		
15. Temporal trend	0.47	0.08	-0.55	0.03	-0.21	0.06	0.11	0.01	-0.11	0.09	0.08	0.09	-0.54	-0.08	1.00	

Table III-b: Estimations of convergence towards the category

	Lending activities	Investment banking	Public banking	Human capital	Risk	Savings	Net position
Strategic dimension_{t-1}	1.044*** (14.80)	1.420*** (19.17)	1.214*** (22.67)	1.214*** (40.00)	1.078*** (27.49)	1.140*** (18.32)	1.158*** (16.83)
Convergence towards the reference point	0.319*** (4.16)	0.980*** (15.22)	0.541*** (10.63)	0.695*** (22.86)	0.841*** (23.66)	0.470*** (7.57)	0.532*** (7.78)
Inefficiency^a	0.310 (0.42)	0.0668 (0.08)	-0.462 (-0.46)	0.558 (0.49)	0.147 (0.27)	-0.486 (-0.57)	0.388 (0.46)
Profitability^a	-0.163 (-0.95)	0.110 (0.53)	0.0598 (0.27)	-0.230 (-0.88)	0.224 (1.01)	-0.164 (-0.89)	-0.0485 (-0.26)
Branches^a	0.00153 (0.92)	-0.00264 (-1.16)	-0.00105 (-0.40)	0.00788 (0.54)	-0.0685 (-0.43)	-0.0251 (-0.98)	-0.00990 (-0.32)
Multimarket contact with category members^a	0.305 (0.19)	-1.33 (-1.00)	0.876 (0.40)	-0.308 (-0.32)	0.146 (0.10)	-0.0799 (-0.06)	-1.02 (-0.47)
Geographical presence^a	0.435** (2.48)	-0.0577 (-0.53)	-0.465*** (-3.34)	0.0182 (0.27)	0.0429 (0.47)	0.0893 (0.61)	0.0165 (0.09)
Unemployment^a	0.257* (1.76)	0.216** (2.12)	-0.373** (-2.28)	0.661*** (5.51)	0.0395 (0.35)	-0.204* (-1.69)	0.190 (1.13)
Crisis^a	-4.90*** (-4.67)	2.08** (2.55)	3.76*** (2.81)	1.31 (1.37)	-0.530 (-0.67)	0.499 (0.53)	-2.30 (-1.64)
Temporal trend^a	-0.499 (-1.46)	0.0796 (0.69)	1.71*** (4.39)	0.520*** (4.13)	0.141 (1.03)	-0.255** (-2.10)	-0.0446 (-0.22)
Observations	2215	2215	2215	2215	2215	2213	2215
Adj. R²	0.765	0.303	0.777	0.609	0.386	0.455	0.477

t statistics in parentheses. Standard errors robust to heteroscedasticity and autocorrelation

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

^a Variable divided by 1000

The variable *Convergence towards the reference point* is measured as $(G_{k,j,t+1} - Y_{i,j,t})$, where $Y_{i,j,t}$ is the strategic dimension j of the firm i at time t . $G_{j,k,t+1}$ is the strategic dimension j of the benchmark k at time $t+1$.

Table IV: Estimations of convergence of dissimilar firms and firms with low multimarket contact towards the category

	Convergence of dissimilar firms							Convergence of firms with a low multimarket contact						
	Lending activities	Investment banking	Public banking	Human capital	Risk	Savings	Net position	Lending activities	Investment banking	Public banking	Human capital	Risk	Savings	Net position
Strategic dimension_{t-1}	0.872*** (5.92)	1.719*** (13.25)	1.265*** (6.60)	1.531*** (12.83)	1.377*** (11.35)	0.887*** (14.39)	1.283*** (6.05)	1.148*** (10.87)	1.286*** (8.46)	1.226*** (9.01)	1.175*** (37.12)	1.066*** (19.16)	1.068*** (13.60)	0.998*** (6.01)
Convergence towards the reference point	0.643*** (3.43)	1.431*** (16.00)	0.675*** (3.08)	1.145*** (10.60)	1.226*** (16.89)	0.523*** (7.77)	0.767*** (3.69)	0.447*** (4.11)	0.827*** (5.49)	0.608*** (4.40)	0.800*** (23.84)	0.909*** (15.98)	0.876*** (11.34)	0.806*** (4.55)
Inefficiency	0.733 (0.91)	2.18 (1.03)	1.00 (0.63)	0.313 (0.10)	0.456 (-0.39)	-0.374 (-1.09)	0.679 (0.34)	0.0304 (0.03)	0.226 (0.49)	0.221 (0.20)	0.366 (1.22)	0.804* (1.77)	-0.0862 (-0.18)	0.279 (0.29)
Profitability	-0.223 (-0.87)	2.96** (2.05)	0.685 (1.00)	-0.423 (-1.06)	-2.24 (-1.42)	-0.252* (-1.68)	1.37 (1.19)	0.0716 (0.20)	-0.393* (-1.72)	0.192 (0.38)	-0.591*** (-3.54)	-0.234 (-0.61)	0.0540 (0.40)	-0.280 (-0.78)
Branches	-0.0464 (-1.64)	0.00296 (0.63)	-0.0297 (-1.15)	-0.00680 (-0.48)	-0.0287*** (-3.11)	-0.0311** (-2.07)	-0.00755 (-1.37)	-0.0217* (-1.80)	-0.00992 (-1.23)	0.0292 (1.52)	0.00601 (0.84)	-0.0136 (-1.07)	-0.0159* (-1.74)	0.0463*** (2.65)
Multimarket contact with category members	9.14* (1.88)	1.37 (0.31)	3.07 (0.34)	-13.8* (-1.86)	-3.63 (-0.73)	3.53 (1.50)	4.84 (0.40)	-4.23 (-0.80)	3.79 (1.12)	3.22 (0.43)	0.0741 (0.02)	-10.2* (-1.69)	2.08 (0.33)	-6.60 (-0.59)
Geographical presence	1.68** (2.18)	-0.142 (-0.93)	-0.716** (-1.97)	-1.31** (-2.19)	0.303 (1.47)	0.159 (0.89)	0.290 (1.17)	0.00648 (0.02)	0.276 (1.62)	0.107 (0.25)	-0.0662 (-0.40)	-0.450* (-1.77)	-0.0861 (-0.53)	0.0348 (0.11)
Unemployment	-0.248 (-0.64)	0.182 (0.65)	-0.516 (-0.92)	-0.127 (-0.19)	-0.405 (-0.96)	0.132 (1.16)	0.334 (0.44)	-0.104 (-0.64)	0.180 (1.47)	0.272 (1.20)	0.401*** (3.50)	-0.233 (-1.08)	-0.138 (-1.12)	0.357 (1.54)
Crisis	6.43 (1.41)	5.07* (1.88)	4.40 (1.43)	15.6** (2.22)	-0.0309 (-0.01)	-1.80* (-1.68)	-2.90 (-0.66)	-2.79* (-1.67)	1.21 (1.22)	1.33 (0.61)	0.0203 (0.02)	2.23 (1.49)	-0.218 (-0.16)	-1.31 (-0.56)
Time trend	-2.80*** (-3.08)	-0.621* (-1.81)	0.891 (0.62)	0.511 (0.66)	-0.987 (-1.46)	0.353** (2.22)	-1.29 (-1.02)	-1.09* (-1.88)	-0.0651 (-0.43)	2.18** (2.11)	-0.0167 (-0.11)	0.181 (0.73)	-0.195 (-1.33)	0.300 (0.96)
Observations	591	576	565	545	448	663	480	571	571	571	571	571	571	571
Adj. R²	0.1933	0.269	0.380	0.329	0.321	0.294	0.178	0.877	0.261	0.849	0.784	0.496	0.256	0.0813

t statistics in parentheses. Standard errors robust to heteroscedasticity and autocorrelation

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; ^a Variable divided by 1000

The variable *Convergence towards the reference point* is measured as $(G_{k,j,t+1} - Y_{i,j,t})$, where $Y_{i,j,t}$ is the strategic dimension j of the firm i at time t . $G_{j,k,t+1}$ is the strategic dimension j of the benchmark k at time $t+1$.

Table V: Estimations of convergence towards successful firms, excluding commercial banks

	Lending activities	Investment banking	Public banking	Human capital	Risk	Savings	Net position
Strategic variable_{t-1}	0.668*** (16.80)	0.759*** (15.46)	0.953*** (21.76)	1.507*** (48.64)	0.643*** (13.02)	0.599*** (14.49)	0.640*** (12.30)
Convergence towards the reference point	-0.127*** (-3.39)	0.279*** (8.03)	0.310*** (6.23)	0.909*** (37.51)	0.292*** (6.41)	0.0331 (1.61)	0.0885*** (5.13)
Inefficiency^a	0.370 (0.35)	0.890 (1.48)	-1.01 (-0.61)	0.978** (2.09)	0.835* (1.92)	0.439 (0.84)	-0.777 (-0.76)
Profitability^a	0.0529 (0.59)	-0.142* (-1.86)	-0.0932 (-0.59)	-0.00345 (-0.04)	0.435** (2.45)	-0.0868 (-1.23)	0.117 (1.21)
Branches^a	-0.00185 (-1.17)	-0.00356* (-1.68)	0.00382 (1.10)	0.00221 (0.01)	0.00265 (1.42)	-0.00756*** (-4.40)	0.00892*** (3.08)
Multimarket contact with successful firms^a	-0.341 (-0.84)	-0.0684 (-0.14)	0.731 (1.03)	0.556* (1.73)	0.942 (1.58)	0.570 (1.41)	-1.05 (-1.48)
Geographical presence^a	0.0466 (0.85)	0.0319 (0.40)	0.0462 (0.43)	-0.0969** (-2.52)	0.0187 (0.27)	-0.174*** (-3.20)	0.278*** (3.04)
Unemployment^a	-0.154 (-1.63)	0.0291 (0.28)	-0.0655 (-0.40)	0.101 (1.23)	-0.570*** (-4.24)	-0.199** (-2.53)	0.430*** (2.77)
Crisis^a	-6.54*** (-8.83)	1.44* (1.83)	6.12*** (5.09)	2.79*** (4.90)	0.368 (0.38)	1.77** (2.19)	-3.39** (-2.41)
Temporal trend^a	0.867*** (5.61)	-0.980*** (-7.05)	-0.0610 (-0.21)	0.959*** (13.64)	-1.26*** (-8.46)	0.239** (2.42)	0.812*** (3.83)
Observations	1468	1468	1468	1468	1468	1468	1468
Adj. R²	0.893	0.263	0.840	0.805	0.237	0.359	0.437

t statistics in parentheses. Standard errors robust to heteroscedasticity and autocorrelation

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

^a Variable divided by 1000

The variable *Convergence towards the reference point* is measured as $(G_{k,j,t+1} - Y_{i,j,t})$, where $Y_{i,j,t}$ is the strategic dimension j of the firm i at time t . $G_{j,k,t+1}$ is the strategic dimension j of the benchmark k at time $t+1$.