

Initiative, Incentives and Soft Information

How Does Delegation Impact the Role of Bank Relationship Managers?

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August 30, 2003

Abstract

This paper empirically examines how changes in the hierarchical structure of a large organization can affect incentives. The empirical analysis exploits a change in the hierarchical structure of the Corporate Division of a private foreign commercial bank in Argentina between 1999 and 2001. Using detailed hand collected data on credit approvals, as well as perceived effort measures for each relationship manager from quality surveys done to borrowing firms, I test whether delegation of authority and reduction of oversight improves or decreases the provision of effort by account managers. Results suggest that “empowering managers” increases the time relationship managers spend with their corporate clients, increases perceived effort and reduces the number of complaints the bank receives from its clients. Alternative explanations and several tests are constructed to examine the different channels through which effort measures could have increased other than the change in organizational structure. I then test whether the improvement is really because managers make better use of their decision making authority rather than they simply waste less time in filing reports to their superiors. I find that individuals who receive more authority use their soft information more compared to individuals to whom authority is only partially delegated. This suggests that delegation of authority increases managerial effort not only because management spends less time reporting to bosses, but also because they recognize that their effort will have greater impact on outcomes. Hence, transmission of, and reliance on, soft information are higher under decentralized than centralized structures. Finally, I test whether the change in structure was meaningful and productive from the bank’s financial perspective. I find that cross-selling measures and bank’s financial ratios increased after the organizational change.

*Department of Economics, University of Chicago. I wish to thank Raghuram Rajan and Per Strömberg for their advise, constant support and encouragement along the way. I also appreciate very useful comments and helpful discussions with the other members of my thesis committee, Ali Hortaçsu, Atif Mian and Luigi Zingales. I also thank the help and comments of V.Acharya, U.Axelsson, W.Dessein, L.Garicano, D.Gromb, P.Pierotti, J.Zimmerman and P.Canavese, who helped me processing the data, and seminar participants at Anderson UCLA, Chicago GSB, Columbia Business School, Deloitte and Touche, Kellogg School of Management, London Business School, Michigan Business School, MIT Sloan, OSU Fisher School of Business, Rochester Simon School of Business, Tilburg University, University of Amsterdam and Yale SOM. Finally, I wish to thank all the members of the bank who gave me access to the information and helped me in the data collection process. Specially, P.Aguirre Saravia, G.Blanco, F.Cianciolo, C.Giovanelli, A.Hepp, N.Mangonnet, M.Pérez de Solay, M.C.Sánchez, A.Silva, C.Torres Sanmarco and Relationship Managers and Credit Administration Unit members who kindly answered to all of my questions and doubts along the process. Financial support from the University of Chicago is gratefully acknowledged. All remaining errors are mine.

1 Introduction

In 1962 Alfred D.Chandler, in his pioneer work “Strategy and Structure”, shed anecdotal light on the importance of internal hierarchical structures in organizations. Using evidence from the executives at Du Pont, General Motors, Standard Oil Company and Sears, Roebuck & Company, he described the importance of *creating autonomous divisions* and changing the organizational layout towards a more *decentralized control structure* by delegating power and independence to the lower layers of the hierarchy. In the chapter of his book on General Motors, Chandler refers to Alfred Sloan’s restructuring plan for GM as:

*“In the analysis of General Motor’s organizational needs, Sloan’s plan began with the assumption that the operating divisions must retain their autonomy. A centralized structure was out of the question. Even the milder type of supervision had met great resistance.[...]Moreover, the plan firmly believed that divisional independence encouraged initiative and innovation.”*¹

Aghion and Tirole [1997] develop a theoretical framework to formalize the evidence discussed by Chandler. By distinguishing between real and formal authority in organizations, they conclude that delegating formal authority to the lower layers of a hierarchy can promote initiative, thus enabling employees to exert higher effort.² Despite its plausibility, this rationale for delegation of control has never, to the best of my knowledge, been tested empirically, as it is difficult to find a suitable setting and the corresponding data to do so. Of course, an alternative view is that supervision plays an essential role in preventing slacking. In this more traditional principal agent framework the delegation of authority and the reduction of supervision, if not accompanied by a change in the formal incentive system, could lead managers to slack-off. This paper attempts to determine which view is more consistent with the data.

I use evidence from a change in hierarchical structure inside a large organization in order to test these opposing views: delegation of authority or decentralized control against classical monitoring theory or centralized control. Evidence from this hierarchical change is relevant to the debate concerning whether flat organizations are better or worse than steep ones, in terms of the work performance of the employees and the way provision of incentives is handled within the

¹From *Strategy and Structure. Chapters in the History of the Industrial Enterprise*, Cambridge Massachusetts, MIT Press1962, page 133.

²Aghion and Tirole [1997] named this effect the “Incentive View of Delegation”.

organization.³ Although the change under consideration in this paper occurs within the structure of a large organization, the experiment is also useful to understand some of the reasons for spin-offs and stand-alone companies in large conglomerates.⁴

The change in hierarchical structure that I study takes place in the Corporate Commercial Division of a private foreign bank in Argentina. Corporate relationships between firms and the bank are developed in this Division. Account officers, also called relationship managers, henceforth RMs, are appointed to handle such firm-bank relationships. The hierarchical change consisted of giving to *some* relationship managers either partial or complete decision making authority by reducing the supervision and monitoring by their superiors. I test whether the delegation of authority and reduction of oversight improves or decreases the provision of effort by RMs. I find that reduction in supervision does seem to enhance the provision of effort by RMs.

Approvals of credit decisions are not solely based on quantitative variables (*hard information*) but also on qualitative measures (*soft information*). Both the incentives for gathering soft information and the relative use of each type of information may vary with the degree of authority delegated to the account officer who handles an account.

To test whether the improvement in effort measures is really because account officers make better use of their decision making authority, rather than simply wasting less time reporting to their superiors, I check whether account officers who receive more authority use more soft information than individuals to whom authority is only partially delegated (Stein [2002]). I find this is the case. RMs who are delegated full authority embed qualitative information about the firm in their pricing decisions as opposed to those account officers who have only partial authority.

Given the nature of this setting, and the lack of empirical evidence on the use of soft information in credit allocation and pricing decisions, the paper attempts to combine the role of delegation and its effects on effort exertion with the impact that delegating authority triggers on the firm-bank relationship, as well as, on the use of qualitative information.

Let me now describe my results in greater detail.

The organizational structure change took place in September of 2000. I use data from the years 1999 and 2001 at the relationship manager level as well as detailed hand collected data from credit folders of the firms borrowing from this bank. Specifically, I attempt to answer the following four questions.

³There is a vast theoretical literature that addresses the provision of incentives within an organization. Among others, see Alchian and Demsetz [1972], Williamson [1985], Holmstrom and Roberts [1998] and Rajan and Zingales [2001].

⁴See among others, Meyer, Milgrom and Roberts [1992], Rajan and Zingales [2000], Scharfstein and Stein [2000] and Wulf [2001] on this last point.

First, does the increase in responsibility and delegation of authority increase the initiative and effort exerted by relationship managers in handling their relationships with the firms? I examine the impact of the hierarchical structure change on incentives and on perceived effort measures of relationship managers. To identify such effects, I use as control group a group of relationship managers who did not experience any change in either their tasks or their supervisory structure. I analyze this question both at the individual relationship manager level and at the firm level, using different measures of RM effort based on quality ratings from each borrowing firm that the RM handles. To the best of my knowledge, this is the first attempt to test a theory of delegation of authority along the lines of Aghion and Tirole [1997]. Results suggest that delegation had a positive impact on RMs effort, as perceived by the borrowing firms, increased the time RMs spent with their corporate clients and reduced the number of complaints received by the bank from its clients. These results hold both at the aggregate relationship manager level, as well as at the firm level. Results are robust to alternative explanations including for firm-specific characteristics and selection issues.

Second, is sorting of firms across relationship managers driving the results? I address alternative explanations other than delegation, which could account for the increase in perceived effort. It is still empirically unclear from the relationship lending literature which are the factors that determine allocation of effort in terms of monitoring large corporate firms. Controlling for confounding stories which might have a differential impact on effort *does not* change the result found for the impact of delegation of authority. Perceived effort from RMs who experienced full delegation of authority increased independently of these other channels. Even though more leveraged and profitable firms, as well as specific internal credit criteria to the bank, as adverse changes in collateral and increase in credit facilities, have a differential impact on effort, the direct effect of delegating authority due to the organizational change does not vanish. Thus, sorting of firms among relationship managers according to these internal bank criteria and specific characteristics are not driving the results on effort. These findings also shed light on the mechanisms through which monitoring activities influence firm behavior in large corporate-business lending.

Third, is the increase of effort simply a consequence of the reduction in bureaucracy or because managers recognize their effort has a higher impact on outcomes? It is clear that the reduction in bureaucracy implied that RMs had more time to spend with their clients. But did it impact the quality of their work in ways consistent with greater delegation? To answer this question, I check whether authority affects the use of soft versus hard information when pricing working capital loans. Given the differences in transmission costs between soft and hard information among centralized (partial delegation) and decentralized (full delegation) structures, I would expect increased

authority to lead to a higher use of soft relative to hard information consistent with the model of Stein [2002]. I perform a test for Stein's theoretical implications on the link between organizational structure and the role of qualitative information. My results suggest that when managers acquired complete independence of responsibilities, they based their decisions more heavily on qualitative relative to quantitative information as compared to RMs who experienced only partial delegation of authority and were still under a centralized structure. Officers who received only partial authority must credibly convince their superiors of the accuracy of the information they gather, and hard information is easier to transmit than soft information.

Finally, is the change in structure meaningful and productive? Does decentralization of control improve the bank's knowledge of their clients in terms of financial and banking services needs? It is not clear whether the fact that RMs spend more time with their clients implies that the bank becomes closer to the firm making the firm-bank relationship more productive. Since I focus mainly on effort measures, it could be the case that the additional time RMs spend with their clients has no impact on the profitability of the bank.⁵ Using the cross-selling ratio as a measure of closeness to the firm, I examine the impact of delegating authority on the bank's financial performance. I find that due to the additional time devoted to improving knowledge of clients' financial needs, cross-selling increased between 14% and 16% after the organizational change. The change also had a positive impact on both the profitability of the bank and on risk-adjusted earnings. Hence, I show that the organizational had a productive and sizeable economic impact on the bank.

Selection issues are particularly important in the analysis. To the extent that authority was not delegated to a random set of relationship managers and that firms are not randomly assigned to relationship managers, the matching process that determines such assignments may ultimately be driving the results. I specifically address selection problems and find that the observed impact on effort after the change in hierarchical structure does not merely reflect selection issues.

The paper contributes both to the incentives and relationship lending banking literature in three ways. *Firstly*, I test and find evidence consistent with Aghion and Tirole's theory of delegation and initiative. *Secondly*, delegating authority increases managerial effort not only by reducing bureaucracy but because RMs recognize their effort will have a greater impact on outcomes. Using Stein [2002], I test the use of soft relative to hard information, in credit pricing decisions by those individuals with full, rather than partial, responsibility. *Finally*, delegation of authority has a real

⁵ Allocation of time is mostly left to the relationship manager's will after the change in structure takes place. Perceived effort measures may increase either through productive work or through playing golf, enjoying extended lunch hours with the firms' executives or other related activities. Thus, additional time spent could be unproductive from the bank's perspective.

effect on the banks' large-business lending practices, as evidenced by cross-selling opportunities and a positive impact on the financial performance of the bank.

The structure of the paper is as follows. Section 2 presents a brief review of the theory, Section 3 describes the institutional set up, the hierarchical structure change within the organization and the data used in this paper. Section 4 describes the empirical strategy and presents tests for decentralization versus centralization of authority both at the RM and firm level. Section 5 addresses confounding stories through which perceived effort measures could have increased other than the change in the hierarchical structure providing some evidence on *ex-post* monitoring activities. Section 6 presents the results on delegation of authority and the usage of soft relative to hard information. Section 7 analyzes the real impact of the change in structure in terms of closeness of the firm-bank relationship and profitability measures. Section 8 is left for concluding remarks. Appendix A describes the data set used throughout the analysis with the definition and a detailed description of each variable.

2 Literature Review

2.1 Decentralized versus Centralized Control

The role of monitoring under asymmetric information in traditional agency problems is well understood in the literature.⁶ In the context of this paper, the key implication of this set of theories is that individuals who are monitored better exert more effort than their peers *ceteris paribus*.

In contrast to classical monitoring theory, recent papers suggest monitoring may diminish the incentive to exert effort. The literature on *organizational structure* has added new insights to the understanding of the role of monitoring. Introducing concepts such as *delegation* and *initiative* inside organizations (Aghion and Tirole [1997]), how *bureaucracy* affects generation of information within the organization (Zingales and Novaes [1998]) and how the *decentralization* of decisions impact allocation of funds and research (Stein [2002]) has all impacted the way classical agency problems are studied.

For the case at hand, the incentive view is the key to understanding the impact of delegating decisions. The delegation of responsibility to the lower hierarchical layers of the bank is motivated by initiative considerations regarding the responsibility of the account, the acquisition and transmission of information to upper layers of the hierarchy and the competition among relationship

⁶For a review of the literature on classical monitoring agency problems see the work of Holmstrom [1979] and Holmstrom and Milgrom [1991], among others.

managers of the attention of the superiors in their accounts.⁷

Aghion and Tirole [1997] has been one of the most significant contributions to the organizational design literature. They conclude that when agents care about outcomes, and not only about the effort they exert, increasing the agent’s formal authority (“right to decide”), as opposed to real authority (“effective control of decisions”), promotes initiative, inducing the agent to exert higher effort than would have otherwise occurred.

This theory suggests a new set of empirical predictions. However, the lack of a suitable setting and difficulties in gathering the necessary data has prevented an execution of a test for such predictions.

2.2 Organizational Structure and Soft Information

In order to determine if the increase in effort measures is due to a reduction of bureaucracy or because account officers recognize their effort will have an impact on outcomes, the second part of the paper examines the impact of the change in authority on the nature of decision-making and on the closeness of the firm-bank relationship.

Hard information is information that can be costlessly and instantaneously verified. For the purposes of this paper hard information is cheap to verify. Conversely, soft information cannot be verified by the other party except at a high cost. Nevertheless, a difference should be made in the meaning of the term soft information between small and large business lending firms.⁸ For small business lending, soft information refers to specific knowledge of the quality of management, quality of the firm, its competitive position and the daily business it is involved in. By contrast, corporate clients have their business well established in the market. Soft information in large business lending refers more to the closeness of the relationship between the firm and the bank and to the degree of commitment between both parties.⁹ In the context of large business lending, the effort the RM exerts shows how close the bank is to the firm and how much commitment exists between both parties.

The empirical literature has not yet been entirely successful in clearly disentangling the use of

⁷This last point is similar to Stein [2002]. In his paper, agents compete for a larger share of funds, whereas in the case of the relationship managers they may compete for a larger share of effort from their superior to be allocated on their own assignments. Instead of facing an internal capital market problem, relationship managers engage in an internal competition for the attention and effort of their superiors.

⁸It is not in the scope of the paper to theoretically define and describe the differences of soft information among small and large business lending. Very little is known in the literature regarding the use of soft information in small and large business lending. Petersen [2002] establishes a theoretical difference between soft and hard information discussing the advantages and disadvantages of one over the other in financial transactions.

⁹See Uzzi [1999] and [2002] for the importance of social relations and networks in business lending.

soft relative to hard information in relationship lending practices. Berger et al [2002] attempt to understand the role of soft information between small and large organizations by testing Stein's [2002] theory and conclude that small organizations are more efficient in collecting and utilizing soft information relative to large organizations. Using a more direct approach, I construct a test for Stein's theory using the differences in the degree of authority delegated to RMs.

Large business lending takes place in a *multi-product* environment involving both lending products and transactional banking services.¹⁰ The fact that some RMs were given more authority is explored in order to determine its implications regarding the use of qualitative information and the cross-selling activities. The change had a direct impact on the cross-sell of firms as relationship managers had more freedom to allocate their time and effort among their clients deepening the knowledge about their clients needs.

3 Institutional Setup and Hierarchical Change

3.1 The Corporate Bank Division

The private foreign bank referred to throughout the paper is a top tier bank in Argentina in terms of total assets and net worth, and is ranked as one of the best commercial banks in the world.¹¹ The Corporate Bank Division is the heart of the business of any commercial bank. It provides short, medium and long term financing, as well as non-lending products and transactional banking services to large corporations. It is the division where the relationship between the firm and the bank is established, developed and consolidated throughout the years by the account officers.¹² The changes I study took place in this division.

The bank appoints Relationship Managers who are in charge of developing the firm-bank relationship, understanding the requirements of the clients and having a deep knowledge of the firm's financial and non-financial needs in order to provide the right product at the right time. They may even propose and create new products for the client. They represent the bank to the firm and any inquiry of the firm regarding any product goes through them. Although they may not have specific knowledge concerning all products and services offered by the bank, they do have general knowledge of products and are supposed to refer the client to the appropriate product specialist.

¹⁰This is in contrast to small business lending practices where lending activities are the main product.

¹¹I have signed a non-disclosure agreement with the bank and therefore I cannot mention in any written document the name of the institution where the data I use comes from.

¹²A difference should be noted regarding the meaning of the term relationship in this setting as compared to small business lending. In that case, the bank's main role is provision of liquidity with little, if any, use of the broad variety of lending and non-lending products offered to corporate clients. The role of relationship managers in small business lending is concentrated on scanning prospective clients and handling internal rules to monitor firms.

Essentially, relationship managers are financial advisors to the firms. Each Relationship Manager services a number of firms.

Firms are screened before they become a Corporate Client and can deal with the bank. Apart from specific constraints on the industries the firm belongs to, the general requirement that all firms must satisfy is that the total annual net sales should be above 50 million pesos.¹³

3.2 Hierarchical Structure Change and Redefinition of Roles

Relationship Managers focus on day-to-day credit decisions and credit maintenance of existing facilities approved on annual basis for each of the firms they handle in their portfolio.¹⁴ RMs are divided in teams. Each team is called a Business Unit, henceforth BU, and deals with a particular group of industries. Each RM is assigned to one Business Unit. Sizes of BUs vary. BUs consist of one *Division Manager* or *Unit Head*, henceforth UH, who is in charge of monitoring, coordinating and helping the RM in the process of approving the credit facilities she recommended and any special transaction through the levels of the approval hierarchy inside the bank.¹⁵ The Unit Head exerts effort in convincing the upper layers of the hierarchy in approving the credit facilities proposed. The RM also reports to the Unit Head any advances and changes in the bank-firm relationship such as potential new deals, new non-lending products that could be sold and any other information she considers relevant to the relationship and that the UH should be acquainted of.

Although the RM is in charge of the relationship and directs all communications between the bank and the firm, inside the bank the officer responsible for the credit approvals is the Unit Head. If there is any problem in the process of approval, any concern about the quality of the loan, or in the method of approval, the upper layers of the bank will contact the Unit Head and not the Relationship Manager. All credit facilities have to be reviewed at least once a year, so as to reassess risk. This involves an updated analysis and a review of the performance and other interactions with the client. Relationships with ongoing, short-term obligations have to be reviewed with at least the same depth as they were in the original credit approval, including financial, management and other qualitative analysis.

The UHs ensure the proper coordination, execution and monitoring of each credit transaction from early consulting and discussion through approval and maturity. They coordinate the approval

¹³In the period under analysis 1999-2001, under Convertibility Law 25,445, 1 Argentine Peso was equivalent to 1 US Dollar.

¹⁴Once a credit transaction has been approved, RMs monitor the risk exposure and maintain it at an acceptable level. Normal risk management maintenance activities include among other things: controlling documentation and disbursement, monitoring timely repayment, controlling and valuing collateral and reviewing the status of an exposure.

¹⁵Approval levels depend on total amount of credit facilities to be approved, the maximum tenor of those facilities, the amount of total credit approvals collateralized and the internal risk rating of the company.

process inside the bank, through ensuring that the documentation is complete, monitoring information flow and avoiding excessive approval signatures by deciding who must sign and who must be kept informed. They also determine at what point early consultation on credit policy issues should be brought to the attention of senior risk managers, or on any other issue that might jeopardize the approval of the credit facility involved.

RMs and UHs exert effort in a *complementary* way to develop the firm-bank relationship. In each unit, the UH coordinates and exerts effort in each project, jointly with an RM. While the UH handles all projects in the business unit and has knowledge of all clients, each RM handles only a subset of firms in the unit. Since size of Business Units vary, each unit has a different number of RMs working under the supervision of the UH.

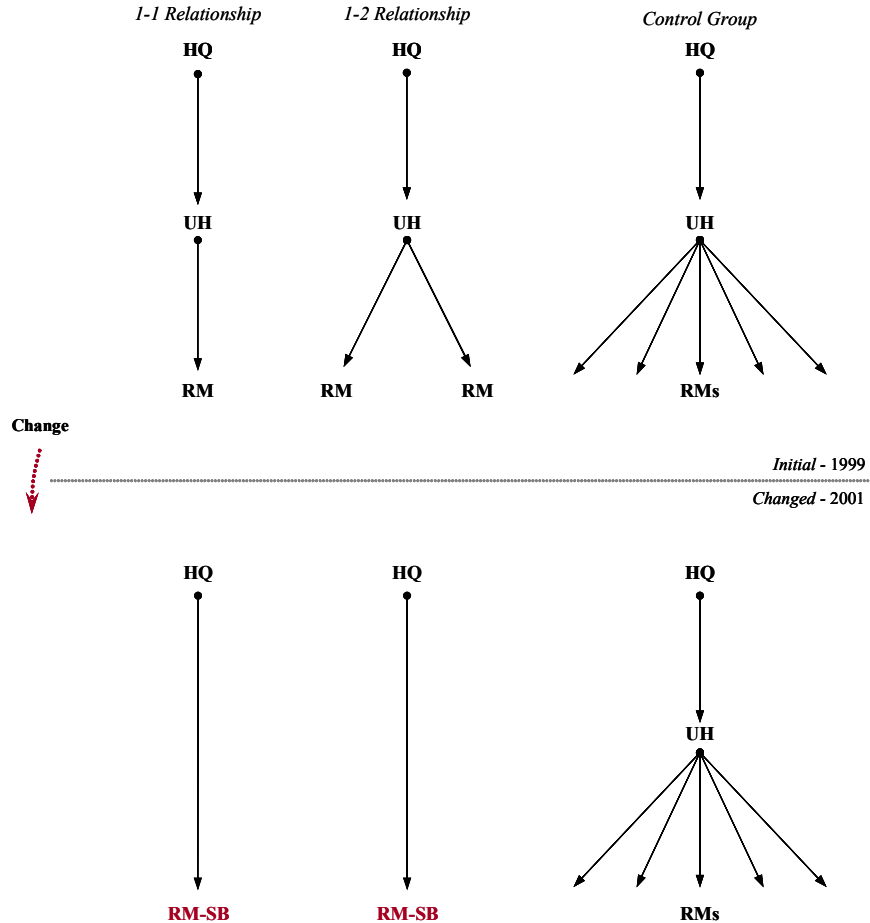
Two changes took place around mid September of 2000. The first one was the *Introduction of Senior Bankers* (Full Delegation of Authority Case) and the second one was the change of organizational structure within teams and a redefinition of roles (Partial Delegation of Authority Case). Henceforth, the original setting is referred to as *Initial Regime* (1999) and the modified one as *Changed Regime* (2001). The description of the changes and its diagrams are presented as follows.

1. Introduction of Senior Bankers. Role of Authority and Decentralization of Control.

A subset of the RMs acquired full responsibility for the accounts they handled after the change. They were named Senior Bankers, henceforth SB. Full delegation of responsibilities was given to SBs in terms of acquisition of information from the firms, selling of lending and non-lending products and total responsibility in terms of coordinating and monitoring loan approvals. These Senior Bankers were individuals who used to be relationship managers in 1999 and had to report to a UH. After the change, they also became fully responsible for the accounts they handled inside the bank, and no longer needed to report to a UH. Compared to the *Initial* structure, these individuals became less monitored and gained freedom over their allocation of time across the firms they manage. They reported directly to the Commercial Bank Head. It is important to emphasize that their compensation scheme was not affected by the change in roles. That is, the introduction of Senior Bankers was not accompanied by any change in their payment schedule.

The theoretical predictions for the consequences of this change case are clear from the literature. If delegation of authority, or decentralization of control, increase incentives, Senior Bankers should exert more effort. I use as a control group managers in teams that did not change their hierarchical structure or managerial responsibilities.

Organizational Structure Change
FULL DELEGATION OF AUTHORITY CASE

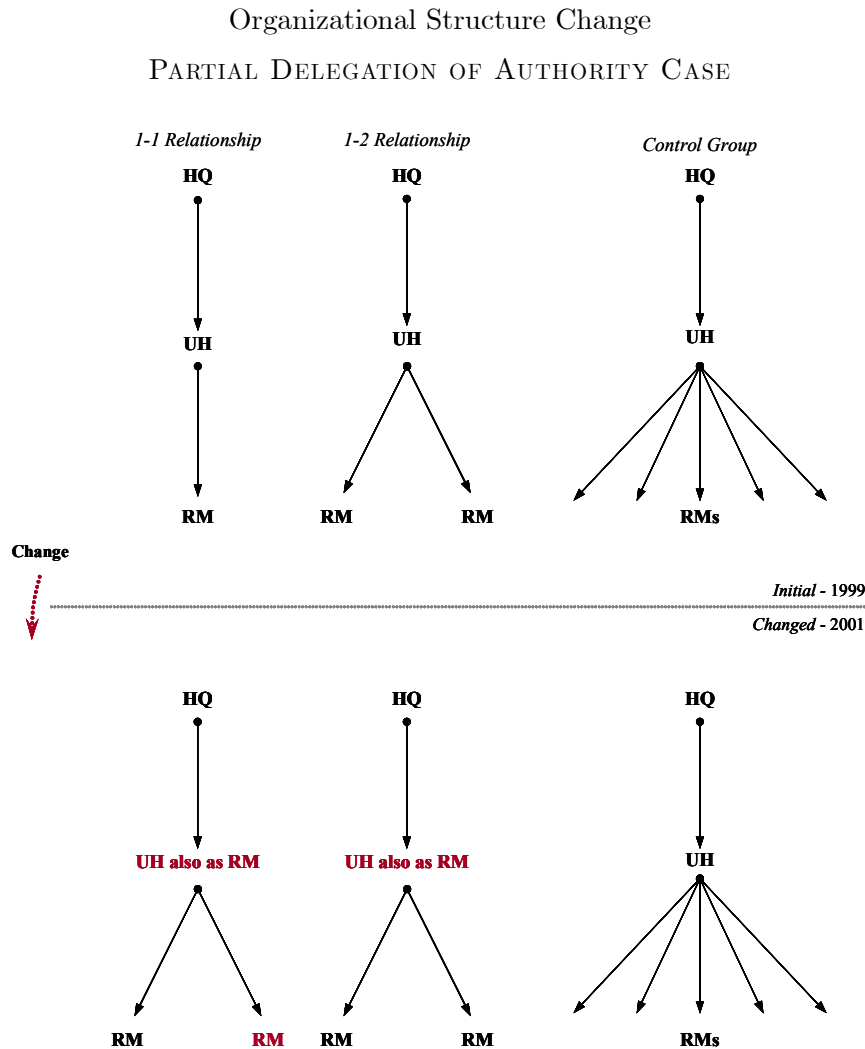


2. Initial to Changed Regime. Partial Delegation of Responsibilities to Relationship Managers.

In the *Initial* regime teams were composed of 1 or 2 RMs reporting to the UH, except for one business unit that had 5 RMs reporting to the UH. This BU will be used as a control group throughout the analysis. After the hierarchical change, in the *Changed* regime, all BUs except for the control group were transformed into teams of 3 individuals, i.e. *all* business units were formed by 2 RMs and one UH. Besides the team size effect in *Changed* regime there was an additional change. Besides coordinating and monitoring accounts in the unit, UHs now also had to handle their own portfolio of accounts.

The theoretical predictions for this switching of regimes are also clear. Here, I divide the effects

for those RMs who reported directly to a UH in a 1-1 relationship, henceforth 1-1 Relationship, versus those in a 1-2 Relationship.



a.) *The Role of Initiative.* In the *Changed* regime, if classical agency view holds then, on average, RMs in 2001 should exert less effort than RMs in 1999 do. Two effects conditioned the effort for those RMs that were in a 1-1 relationship in 1999 and were moved to a 1-2 relationship in 2001. First, the *team size effect*, as the UH -still the responsible officer of the account-monitored more RMs at the same time. Second, the *time allocation effect*, since UHs in the *Changed* regime were give the added duty of managing accounts on their own. If classic agency view holds then perceived effort measures would have decreased since both effects move in the same direction of lower monitoring levels. However, these changes simultaneously implied

that UHs' degree of involvement in each account the RM handled was reduced. Under the *Changed* regime, there is less room for overruling and overlapping of activities between RMs and UHs, due to the lower involvement of the UH and a higher role for initiative from the RM in handling the account. The incentive view of delegation predicts that perceived effort measures should have increased, regardless of whether the RM was in a 1-1 or 1-2 hierarchical relationship in 1999. The difference between the type of relationships in 1999 stems only from the fact that RMs in a 1-1 relationship are subject to *both* effects after the change while those in a 1-2 relationship are subject to only the *time effect*.

- b.) *Differential Impact on Effort*. If the role of initiative prevails, on average RMs in 2001 should exert more effort than RMs in 1999 do, but there are no clear predictions whether higher effort is expected from those RMs originally in 1-1 or 1-2 relationships.
- c.) *Relative Performance Evaluation/Tournaments*. The increase in effort can also be a consequence of competition among relationship managers rather than by an incentive view of delegation.¹⁶ Managers compete among themselves for the attention and effort of their superior in the activities they engage. In the empirical section, I disentangle whether the increase in effort is due to a relative performance evaluation theory or to an incentive view of delegation.

Although it was clear that the change was performed in order to increase the time an RM devotes in understanding the financial needs of the company, thereby enhancing their role as financial advisors, changing RMs may sometimes be optimal from the bank's perspective. A very strong relationship between an RM and the firm may lead to high dependence on only one individual for information from a certain client, which may not be ideal from the bank's perspective. As less bureaucracy means less hard evidence knowledge of a firm remains embedded in the account officer. Although a strong and deep relationship with clients is desired, there may be a beneficial role associated with introducing some level of "bureaucracy", or forcing people to move across sectors to avoid reliance on a single person. Such concentration of information on one individual creates a dependence that may backfire in the future (Zingales and Novaes [1998]). This is one of the reasons why considerable turnover and switching of relationship managers in handling the accounts is observed.

To understand the scope and magnitude of the change within the organization, the following *qualitative* evidence should be pointed out about the changes. *First*, I informally asked several

¹⁶On relative performance evaluation and tournaments see the work of Lazear and Rosen [1981] and Rosen [1986].

Relationship Managers in different Business Units if they personally felt that there was a change in terms of their daily work-load and their working interactions with the UHs. This was indeed the case. RMs believed that the degree of involvement of their superiors in their accounts was substantially reduced and they had more flexibility and freedom to contact their clients, with no need to be constantly reporting their actions to their UHs. RMs felt overruling and overlapping of activities was significantly reduced. *Second*, Senior Bankers were given bigger offices, comparable to the ones UHs had, and internal credit manuals were specifically altered to reflect the role that SBs acquired in becoming the officers responsible of the accounts.

3.3 Data

I personally conducted the field work during the months of July and December of 2001 inside the bank. The Data Appendix provides the definition and a detailed description of each of the variables used in the empirical section of the paper. The data collection itself can be divided into three different groups:

- (i) at the *relationship manager* level, I handed questionnaires to the Relationship Managers and Senior Bankers to obtain personal characteristics, and I also gathered information on the composition of the portfolio of credit facilities that each RM handled from the Credit Administration Division;
- (ii) at the *firm* level, I manually collected information from credit folders for each firm under analysis and obtained detailed revenue data including commissions and fees for both lending and non-lending products for each firm;
- (iii) as *effort* measures I used annual surveys carried by the Quality Team Division about the firm-bank relationship, and I also counted letters of complaints received by the bank from the Customer Service Division.

For the RM level data analysis, personal observable characteristics of each relationship manager and/or senior banker were gathered through a set of questions I handed to each account officer. Questions included age, years of experience in the bank, years of experience in the Corporate Bank and whether the compensation scheme changed as a consequence of the hierarchical change. The Credit Administration Division of the bank allowed me access to the total portfolio and number of accounts of each relationship manager, the quality composition of their portfolio, use of cross-border funding and the share of local approval of the portfolio.

For the firm level data analysis, I collected information from the credit folders and facilities credit approvals of each of the companies under analysis for the last 3 years. For this project, I gathered hard and soft information for both years of 1999 and 2001, for those firms that appeared

in the survey in any of the two years.¹⁷ Large firms, depending on their size and financial position, may have access to local or international capital markets. All these firms have to some extent access to capital markets or other sources of funding. Hence, firms from the sample may be listed or non-listed in some stock exchange but they are *all* considered “corporate clients” of the bank. Apart from financial statement data which is publicly available for listed firms, all the individual firm data, both financial and non-financial, that I manually collected is not public.

The qualitative evidence regarding the specific roles of the Relationship Managers, Senior Bankers and Unit Heads, and on the organizational aspects of the structure were collected from internal credit manuals, management policy manuals, internal documentation and banking records referring to the organizational structure of the Corporate Bank for the years 1999 and 2001.

Perhaps the most important piece of information are the effort measures. *Perceived* effort measures from the firms were taken from annual quality surveys done by an independent consulting company hired by the bank in order to assess the satisfaction status of the firm-bank relationship. These surveys were done in a consistent way in both years¹⁸ on a random set of corporate clients from the commercial bank, with and without credit exposure with the bank. The purpose of the survey is to learn about the firm-bank relationship with specific emphasis on the role of RMs in particular aspects of the relationship. I used the surveys for years 1999 and 2001 with a total of 203 and 180 surveyed firms respectively. Firms evaluate the RMs’ performance by ranking their behavior on a 1-7 scale for each specific question that is asked, including the overall average performance of the RM in the relationship, the time devoted to the account and the ability to communicate with them, knowledge and experience of the RM in providing solutions and the speed of the RM’s response to clients’ requests, among others. Surveys include both individual RM questions about handling the account and more general firm-bank relationship questions. Only the questions that are particularly aimed at assessing the RM’s performance were used in the analysis.

One issue of concern refers to who answers the survey’s questions. I checked in the files of the surveys, since the name, rank and position of the person in the firm who answered the questions is recorded and I feel comfortable that the answers reflect a valid and meaningful evaluation of the

¹⁷Although by definition soft information is hard to write down, I use the word soft for that information that is initially not available in hard numbers and is not easily reducible to a numerical score (Petersen [2002]). That is, it takes time and resources from the relationship managers to learn if the management of a company has for example the ability to act decisively under pressure or the honesty and character of the senior management. Thus, in the large organization under consideration, soft information is stored and processed assigning numerical values to different fields. Whether this process of hardening soft information implies losing information or not is beyond the scope of the paper.

¹⁸The only difference between 1999 and 2001 surveys is the inclusion of two additional questions in 2001. Such questions refer to the frequency of visits that the RM does to the firm annually and the time devoted to answering the firm’s phone calls and messages.

firm-bank relationship.¹⁹ When possible, I matched the firms surveyed in both years with the hard and soft information I collected from the credit folders approvals.

To the extent that these are perceived effort measures from the firms' point of view, they may not imply a real expression of the true effort relationship managers exert.²⁰ To ensure robustness of the results, an alternative and *independent* procedure was also followed. Instead of perceived effort measures, I used the number of letters of complaints received by the bank regarding the role of the RM. The Customer Service Division receives all enquiries regarding the firm-bank relationship and collects all sorts of comments and letters from the customers. I counted the letters of complaints and bad comments that were collected by the Customer Service Division of the bank for both years 1999 and 2001. All letters received in the relevant period were used in the analysis, regardless if the firm who sent such letter was one of the firms that participated in the quality survey or not.

Finally, some *limitations* of the data collected should be pointed out. First, at the RM level one account officer was fired prior to the change and some others were transferred to another Division outside the Corporate Bank after the change. On the other hand, also after the change two new RMs joined the Corporate Bank. I followed the procedure of taking out of the sample the RM who was fired and the new ones added after the change since they did not belong to the experiment under analysis.²¹ Second, at the firm level data different issues are raised. Although firms do not disappear across years, as the mean length of relationship of surveyed firms is 8.7 years and new firms are not surveyed, the sample of firms is different in 2001 as compared to 1999. The incompleteness of the panel stems from the random sampling procedure the consulting company uses when constructing the samples for the quality surveys. In order to account for the incompleteness of the panel, I probability weighted each observation according to different set of weights.

In order to answer the four questions proposed in the introduction, the empirical strategy is divided in two parts. The first part deals with the information aggregated at the Relationship Manager level. Using personal and portfolio characteristics, the unit of observation at this stage of the analysis is the relationship manager. The second part uses firm level data for the analysis.

¹⁹Though qualitative evidence, I also asked informally relationship managers who is/are the person(s) from the firms in charge of answering the quality surveys. The answered was that they are generally people who have daily contact with the Relationship Managers. My main concern was whether a person without substantial knowledge of the daily business relationship could be in charge of answering the questions, but I found no evidence for this hypothesis.

²⁰A point should be noted on the issue of observability of effort. If effort was observable, it would be a contractible measure, affecting the payment scheme. However, as such measures are subject to the RM's influence it may not be optimal from the perspective of the bank to formally include them as a true signal of effort in their payment scheme, affecting their incentives. In turn, as they are not formally used, RMs do not have the incentives to alter them as they otherwise would and, as a consequence, such measures end up closer to a true reflection of effort.

²¹The RM who was fired had on average an overall performance below the mean compared to all relationship managers in the Corporate Bank Division in 1999.

Firm specific characteristics are used to answer questions regarding the implications for effort of the organizational change.

4 Decentralized versus Centralized Control

4.1 Relationship Manager Level Evidence

A first look at the data is taken through the RM level analysis, where the unit of observation is the relationship manager or the senior banker. As few observations are used at this stage, results may not be as robust as desired. The total number of account officers in the Corporate Bank used in the analysis is 26 for 1999 and 24 for 2001. These figures exclude Unit Heads.

To test for the delegation of authority theory I divided the cases into *Introduction of Senior Bankers*, or full delegation case, and *Switching of Regime*, or partial delegation case. The main goal is to study the effect of the change in authority on the perceived effort measures. The identification strategy relies on using one business unit that did not change its hierarchical structure and where no change in responsibility took place as the control group. Introducing this control group, I account for environmental changes that may blur the results found for simple before-after estimates. The basic idea behind the identification strategy can be illustrated by a simple two-by-two table. In Table I, I present results for the unconditional difference-in-difference analysis. Although these results are imprecise since only a small part of the information available is utilized, it is useful to illustrate the direction of the change in selected effort measures. The table shows means from selected perceived effort measures and from letters of complaints for each treated and control group. The main experiment consists on comparing individuals who became Senior Bankers (Panel A) to those who were not affected by the change. Results suggest that those individuals who were promoted to Senior Bankers exerted higher effort than those that were not. The same occurs for the case of RMs who switched from the *Initial* to the *Changed* Regime (Panel B). Before the hierarchical change, the main complaint that relationship managers received referred to poor or no attention in their handling of the account. The objective of the change was to improve the time allocation of the RMs by increasing the time spent with clients and the time devoted to the account, as well as on solving the firms' requirements and needs. This was indeed the case. Unconditional results show that perceived effort measures increased between 2.61% and 6.59% for the SBs and 1.22% to 12.07% for the RMs under different measures. The measure *Time Devoted to the Account* & *Ability to Communicate* increased 6.59% and 8.95% after the change for SBs and RMs respectively. The speed of the managers' response to clients' requests increased too after the change between 2.93% and 12.07% for SBs and RMs respectively. This result sheds light on the importance of the

reduction in overruling and overlapping of activities.

A relevant concern for the analysis at this stage is whether *selection* of individuals who became Senior Bankers, or among the individuals that were assigned to teams of different sizes, could ultimately be driving the results. Table II displays means of selected personal and RM bank statistics including, age, experience in the bank, number of accounts held, percentage of the portfolio that displays Cross Border Risk Approval and the percentages of the portfolio held in each credit type classification,²² for each sample of interest. For 1999, the column all RMs is subdivided into two subsets, RMs assigned to a single relationship and RMs who will eventually be promoted to a Senior Banker position. The column Control is composed of the RMs in the unit not affected by the change.²³ For 2001, the three columns, SBs, RMs and Control, represent mutually exclusive sets of account officers. I perform tests for the equality of distributions to analyze the sorting of individuals, as well as the adequacy of the control group used throughout the analysis.

In order to compare the different samples for each year and address whether selection issues might be driving the results, Table II, Panel A, displays the results of a Mann-Whitney test for the equality of distributions. In particular, two specific cases are analyzed: the selection of RMs who became Senior Bankers and the selection of RMs assigned to 1-1 relationships in 1999. The sample of officers that were promoted to Senior Bankers is found to differ significantly from the RMs sample only in terms of age (34.6 vs 31.9) and experience in the bank (7.29 vs 6.21). Such officers are older and have on average one more year of experience in the bank. Nevertheless, in terms of the firms they handle, no significant differences are found. RM level data shows no evidence that relationship managers who became Senior Bankers handle a set of firms that are significantly different to the ones other RMs handle, neither in terms of the quality of their portfolio nor in terms of the number of accounts.

For the case of team size assignment, significant differences are found for the RMs working under a 1-1 hierarchical relationship relative to the sample of all RMs in terms of experience (7.61 vs 6.21), percentage of cross-border risk approval (0.20 vs 0.36) and in the percentages of credit portfolio classification types. Both credit portfolio types II and III are statistically different (0.14 vs 0.08 and 0.02 vs 0.01, respectively). In particular, these officers are found to hold portfolios that require higher effort exertion, due to the smaller share of cross-border approvals, the higher share of accounts where concerns were raised on the client and the higher share of substandard accounts

²²Portfolio Classifications are divided into Credit Classification Types I, II, III and IV corresponding to Current, Issues Raised on Client, Substandard and Doubtful, respectively. Cross-Border Risk Approval accounts for the Commercial Risk approval by any foreign branch of the bank outside Argentina for the credit facilities of the underlying firm. For a detailed description of each of these variables see the Data Appendix.

²³The Business Unit used as control group receives the name of Global Relationship Bank (GRB Unit).

in their portfolio. Thus, RM level data shows that such officers hold accounts that may differ significantly from the ones held by the remaining RMs in characteristics that affect effort exertion. Data suggests that they were assigned more problematic accounts in terms of quantity and quality of exposure. Therefore, selection may be the ultimate driving force on observed differences found for effort of officers working under a 1-1 relationship as compared to the remaining officers in 1999.

Finally, the adequacy of the control group is examined. Table II, Panel B, reports Mann-Whitney tests for the equality of distributions of each sample of interest to the control group sample, in both years. For both the SBs and the RMs sample, significant differences are found in terms of Cross Border Risk Approval in both years. Such results are not surprising given the type of business unit used as a control group.²⁴ Despite this difference, RM level data shows that the control group has no other relevant difference. Furthermore, differences in ex-ante types do not matter as one of the empirical strategies I follow is a difference-in-difference estimation over time.

I test for the statistical significance of the organizational change estimating the following *before-after* regression, separately for each group:

$$Y_{it} = \alpha + \gamma_i + \delta Post_t + \theta X_{it} + \varepsilon_{it} \quad (1)$$

where Y_{it} is the individual performance measure for relationship manager i in year t , such as some measure of perceived effort or the total number of complaints received. γ_i are Business Unit/Industry specific fixed effects accounting for possible differences in effort measures across the industries for all RMs, δ is the parameter of interest since $Post_t$ is a dummy variable that indicates the post hierarchical change year and θ is a vector of k parameters for k independent observable characteristics. This regression compares separately the performance of Senior Bankers and of those RMs to whom partial delegation of authority and responsibility were given, before and after the hierarchical change. The above specification was also run using γ_i as Individual RM/SB fixed effects instead of business unit/industry fixed effects. Tables III and IV summarize the results for the Senior Banker Case and the RMs Regime Switch Case respectively.

Although I constructed an average from the effort measures for all the questions corresponding specifically to the RMs' role and action in managing the account, the particular measure "time the RM devotes to the account and ability to communicate and access her/him" is reported in the

²⁴I could have used as control group another unit which also did not change its hierarchical structure, the Financial Institution Business Unit. The reason for not using this BU resides in the different nature of the business itself that these institutions tackle in terms of the products they require from the bank. Cross-selling ratios of financial institutions are generally higher than those of corporate clients since they use more non-lending products as funding & gapping and transactional banking services. Lending products do not play a significant role for these cases. Thus, effort measures would not be reflecting the same activities as those on corporate clients.

regressions, since it is the measure that *specifically* addresses the reason for which the organizational structure changed. I also used the average performance measure as well as other specific measures from the survey as alternative dependent variables to check for robustness of the results.²⁵

Introduction of Senior Bankers. Table III shows that the results obtained for the Senior Bankers case give support to the delegation theory of Aghion and Tirole. The fact that full responsibility of the account was given to these officers made them exert higher effort. This result is strong for all specifications, reported in Columns (1)-(6). Robust standard errors are clustered at the SB individual level. Column (1) is the most stripped down version of equation (1). Perceived effort increased 9.9% compared to the unconditional average of SBs before the change. Column (2) uses the aggregate perceived effort measure as a dependent variable. A dummy to control for the fact that officers originally belonged to different hierarchical structures is included in the regressions. Single Hierarchy 1999 takes the value of 1 if the officer was under a 1-1 hierarchical relationship in 1999. This variable is found to be positively statistically significant, implying that such officers exerted higher effort than those officers working under larger team sizes in the same year. Results remain statistically significant using this alternative perceived effort measures. Column (3) controls for Industry fixed effects in order to take into account possible differences in effort measures across units for all RMs. The causal impact of the change does not disappear or change its direction. Individual fixed effects -not reported- yield the same qualitative results as using Industry Fixed Effects.

To consider possible peer pressure effects and free riding issues, I introduce controls for the size of the unit and number of accounts held by each RM.²⁶ Size of Unit is used as an alternative control instead of business unit/industry fixed effects. Personal observable characteristics as age, experience in bank and gender are also included. The marginal impact on effort of handling a larger number of accounts, shown in Columns (4)-(6) is found to be negative, although not statistically significant. The measure Size of Unit does not have a significant impact either. Regarding the effects of monitoring on the accounts, I include the share of the portfolio that is approved outside the local branch and the portfolio quality each RM handles. Those accounts in which credit approval is partially carried outside the local branch -the local branch covers only the sovereign

²⁵ Among other perceived effort measures, I used: time the RM devotes to the account and ability to communicate and access the RM; attitude and character of the RM in the firm-bank relationship; knowledge of the relationship and firm's needs for financial and transactional banking services; solutions proposed and provided by the RM; speed of the RM's response to firm's requests; efficient coordination of the sectors involved in providing solutions and an overall aggregate RM performance measure that specifically relates to the role of the RM.

²⁶ The measure of number of accounts can be misleading. As there is heterogeneity in the type and quality of accounts each RM handles, I also used Total Portfolio Outstanding each RM manages. The reason is quite simple. Although accounts with non-credit facilities imply some work, it is not qualitatively the same as those with credit exposure.

risk, but not the commercial risk of the company- may induce the RM to exert less effort in the way she handles the account. Results suggest this is indeed the case. Columns (5) and (6) show that the impact of the Percentage of Cross Border Approval is found to be negatively statistically significant, corroborating that officers exert less effort when the commercial risk of the company is not covered by the local branch. Column (6) also includes controls for the share of the loan portfolio held in each classification type. Although not reported, evidence of a concavity effect was found. RMs exert comparatively less effort on current accrual accounts compared to substandard and non-accrual accounts. Namely, less effort is exerted when the account is current relative to substandard or when issues were raised on the account, which is the case where maximum and statistically significant effort is exerted.

To check for the robustness of the results, the number of letters of complaints received by the bank from their clients is used as a dependent variable. I averaged across relationship managers the total number of letters where the complaint was specifically about the role of the RM. I also created a subset of those complaints. An indicator was created for the time complaint, i.e. for all the letters received by the Customer Service Division, for each RM, a value of 1 was assigned if the letter referred to a criticism in the time and attention the RM devoted to the account. There are two advantages of using these alternative measures as dependent variables. First, the source of the data is independent of the quality surveys, and second, they should be interpreted as a measure that is correlated with effort and one which the hierarchical change had an effect on. Using both measures gives good variability since firms generally complain about those RMs that, although being responsive, do not handle problems correctly. So in the total number of complaints there is some sort of variability on both tails, since one tends to receive complaints from the very good officers (due to more interactions) and also from the very bad ones. Column (7) reports the results obtained when number of complaints are used as a dependent variable and Column (8) reports the results found for a Probit estimation using the time complaint dummy as a dependent variable. Results for these alternative measures suggest that both the total number of complaints as well as the time complaints decreased significantly for the Senior Bankers after the organizational change took place. In these two specifications both Size of Unit and Number of Accounts have a positive and significant impact on the number of complaints and the time complaint received. Nevertheless, the economic impact of the Number of Accounts is close to 0.

Although results should be taken with the caveat that only 18 observations are used, as individuals are followed at this stage, data is consistent with the incentive view of delegation.

RMs Regime Switch. For this case, two effects are considered. First, in the Changed Regime, UHs have their own accounts, implying that RMs are less monitored. Second, all RMs moved to

1-2 relationships, where larger team sizes also implies less monitoring. Thus, an RM who came from a 1-1 relationship experienced both effects, while one coming from a 1-2 relationship was exposed to only one. Theory is unclear about the direction of the *relative* change in effort after the change since RMs, originally in different structures, may exert different absolute levels of effort. Traditional theory suggests that less monitored account officers should exert less effort. The effect of the change in structure would then be higher for individuals that come from a 1-1 hierarchical relationship, as they experience both effects. Aghion and Tirole’s delegation of authority theory implies that as one is or feels more responsible for an account, initiative leads to exerting higher effort, even though there is less monitoring. The ability to take decisions that would otherwise be taken by a direct boss leads to higher effort exertion as one takes the initiative. This effect is valid for both types of hierarchies and is independent of original team size. After the change in structure, RMs are more responsible for the accounts they handle and therefore have more initiative. Whether the relationship manager was previously working in a 1-1 or a 1-2 relationship may impact his change in performance as pre-change effort means may be different across the two groups of officers. Therefore, both the absolute and the relative increase in effort should be addressed.

Table IV examines the impact of the switching of regime, using effort measures as dependent variables in Columns (1) to (4) and letters of complaints in Columns (5) and (6). Column (1) is the most stripped down version suggesting that the organizational structure change is also consistent with the incentive view of delegation. Perceived effort measures increased 6.87% relative to the unconditional mean of the treated group prior to the change. Column (2) shows that introducing personal characteristics and the number of accounts handled by each RM does not change the statistical and economic significance of the results. In Column (3) I control for the percentage of Cross-Border Approval. Results again suggest again that significantly lower effort is exerted when the commercial risk of the company is approved outside the branch. For the portfolio classifications, although not reported on the table, evidence for concavity on effort allocation is present although not statistically significant. To control for possible pre-existing differences in effort exertion,²⁷ in Column (4) I include an additional control for the original team size of the RM. Results do not differ significantly across these different specifications. On average all RMs, irrespective of their original team size, exert more effort under the new organizational structure. Columns (5) and (6) show that both total complaints and time complaint are significantly reduced after the change.

²⁷Though not reported in the tables due to selection concerns, I also performed a within year test in 1999. Results show that those RMs working under a 1-1 relationship exert significantly higher effort than those in a 1-2 or 1-5 hierarchical structures. This results gives support to the traditional agency view theory of better monitored managers higher effort exertion. Nevertheless, the selection concern raised for the team assignments in 1999, casts some doubts on these results.

In the firm level data analysis I will further disentangle the differential change in effort emerging from those RMs that were previously working under a 1-1 relationship compared to those working with another RM in the business unit. The small number of observations at this stage prevents an identification of such differential effect.

As effort is obtained from perceived measures, two caveats should be pointed out. First, the change has enabled both Senior Bankers and RMs to have more time to spend with their clients, understanding their financial needs and strengthening the relationship. They may do so, but perhaps not in a productive way in terms of the bank's profitability. Activities such as spending the afternoon playing golf, extended-lunch hours, or attending social gatherings may not necessarily imply devoting productive time to increase the profitability of the bank, but may lead to an increase in the perceived effort measures. The last section of the paper deals with the real impact of delegating more authority to the officers and increasing their freedom to allocate time among clients. The second caveat deals with the perception that firms have on the effort the RMs exert. Independently of the perception of the firms, the quality survey is comparable across years and the analysis is done in relative terms across RMs, hence the perception issue can be ignored for our testing purposes.

One of the main problems that before-after estimations present is the lack of controls for contemporaneous environmental changes that may pollute the estimates. Using as control group the business unit that did not change either its hierarchical structure or the role of responsibilities and incentives within their team members, the following difference-in-difference estimation is performed:

$$Y_{it} = \alpha + \gamma_i + \gamma_0 Treated_i + \delta Post_t + \theta X_{it} + \beta(Treated_i * Post_t) + \varepsilon_{it} \quad (2)$$

where Y_{it} , γ_i , δ and θ stand for the same definitions as in (1). The variable $Treated_i$, according to the specific case under analysis, is replaced by either Senior Bankers or Relationship Managers switching from Regime A to B. $Treated_i$ captures pre-existing differences associated with the treated account officer, introducing a control for possible selection issues. It assigns a value of 1 in both years to the treated individual, either the ones who were eventually promoted to Senior Bankers or the RMs who switched from Regime A to Regime B. Therefore, the interaction term ($Treated_i * Post_t$) can be interpreted as the causal effect of the change in hierarchical structure on the average performance of the treated individuals.

Tables V and VI display the results of such difference-in-difference estimations using as dependent variables: (i) the perceived effort regarding the time the RM spends and devotes to the account; (ii) an aggregate measure of effort involving only those characteristics of the relationship

that are specific to the RM; (iii) the total number of complaints; and (iv) the time complaint dummy.

Table V displays the findings relative to the difference-in-difference estimations for the Senior Bankers case. Columns (1) through (6) exhibit results using perceived effort measures as the dependent variable, Columns (7) and (8) use the number of letters of complaints and the time complaint respectively as the dependent variable. Under the same specifications tested in equation (1), the performance of the Senior Bankers is shown to improve after the change in structure, as measured by a significant increase -between 6.09% and 8.07%- in their effort measures or a significant decrease in the number of general or time complaints received. The positive impact on effort is robust to the introduction of personal controls, as well as various bank-RM controls -Number of Accounts, Size of Unit and Cross-Border Portfolio-, as shown in Columns (1) through (6). Columns (4) to (6) introduce a control for whether the officer was originally working under a 1-1 relationship. Again, results show that such officers presented higher effort measures in 1999. Columns (7) and (8) show that the number of complaints and time complaints significantly decreased for those managers that became Senior Bankers. Such results are robust to the introduction of personal, as well as bank-RM controls.

Table VI displays the results found for the difference-in-difference estimations for the RMs' Regime Switch case. Columns (1) to (4) exhibit results using perceived effort measures as the dependent variable. Column (1) is the most stripped down version controlling for pre-existing differences in effort exertion in 1999. Column (2) includes RM fixed effects and Columns (3)-(4) include a different set of personal and bank RM control variables. Independent of the specification analyzed, results suggest that effort measures for the RM regime switch increased. Columns (5) and (6) also show that the total number of complaints and the time complaint significantly decreased.

Perceived effort measures are shown to have increased significantly after the change in structure took place and both general and time complaints are shown to have significantly decreased under all specifications. Results are robust to the introduction of both personal and bank RM controls, as well as RM fixed effects. These findings are consistent with the incentive view of delegation proposed by Aghion and Tirole [1997].

4.2 Firm Level Evidence

I first estimate the effect of the organizational change on effort including specific firm characteristics. As the unit of observation is now the firm, I follow those firms that were surveyed in 1999 and 2001. I estimate the effect of the change on the Senior Bankers and on the switching of regimes case separately. Using firm level data allows for estimating both the relative differential increase in

effort across regimes for relationship managers and for introducing in the analysis *ex-post* monitoring issues regarding the way relationship managers monitor and exert effort on their accounts.

As in the individual RM analysis, *selection* might be again a concern as both the sorting of firms to be assigned to individuals promoted to senior bankers, as well as the sorting of firms to be assigned to relationship managers working in units with different team sizes are not randomly done. Therefore, the matching process may be ultimately driving the results. Table VII displays means of selected statistics of firm observable characteristics for each sample of interest. For 1999, the column RM includes all firms except for those in the control group; the subset SB refers to firms that would be assigned to a Senior Banker in 2001 and the subset Single RM refers to the firms handled by relationship managers working under a 1-1 hierarchy in 1999. The column Control Group corresponds to firms in the unit that did not experience any change in structure. For 2001, the three columns represent mutually exclusive sets of firms. Several tests are performed to analyze the sorting of firms assigned to each group of individuals and the adequacy of the control group.

First in Panel A, I perform a Mann-Whitney test for equality of distributions in order to compare the samples in each year. For the sorting of firms to Senior Bankers, no significant differences are found for 1999. That is, firms that would be assigned to Senior Bankers in 2001 do not differ in terms of their 1999 observable characteristics to the firms that were not assigned to Senior Bankers. Thus, firm level data analysis shows no support of specific selection of firms that were assigned to Senior Bankers in terms of observable characteristics, corroborating the results found at the RM level data analysis.

In terms of assignment to different team sizes in 1999, statistically significant differences are found for (foreign) ownership of the companies, for the average assets that each firm has as outstanding position with the bank, for the maturity and for the current ratio. The firm level data corroborates the suspicion raised at the RM level data, as it indicates that firms assigned to officers in smaller team sizes differ significantly from the firms assigned to officers in larger team sizes in the year 1999. In particular, RMs working under a 1-1 hierarchical relationship are responsible for handling accounts that require higher exertion of effort, as measured by their differences in observable characteristics, mainly the fact that on average they are dealing with firms that have a higher outstanding exposure with the bank. Moreover, all variables that differ significantly across the two groups are associated with characteristics that impact effort on the same direction. Smaller percentage of foreign ownership accounts²⁸ (0.18 vs 0.44), higher average assets (47.2 vs 25.4), smaller

²⁸Generally, foreign owned firms have letters of support or comfort letters from headquarters to their branches around the world. Although this support must not be considered as a sign of collateral, it gives some idea of the commitment that the head office has with its worldwide branches.

proportion of long term debt (0.13 vs 0.25) and smaller current-ratio (0.38 vs 0.45) all indicate that the account officer should exert higher effort, all else being equal. Thus, data indicates that selection plays a role in the assignment of firms to single RMs in 1999. These differences, though, do not affect the difference-in-difference estimations for each of both changes.

The empirical analysis is done following the same procedure taken at the RM level, using a difference-in-difference approach where firms are followed instead. For each of the surveyed firms, I use the effort measure attributed to the RM who handles the account as a dependent variable. The basic regression used for estimating the impact of the change in structure on effort using firm level data is given by:

$$Y_{it} = \alpha + \gamma_i + \gamma_0 Treated_i + \delta Post_t + \beta_1 (Treated_i * Post_t) + \beta_2 (Z_i * Post_t) + \beta_3 Z_i + \theta X_{it} + \varepsilon_{it} \quad (3)$$

where Y_{it} is the perceived effort measure for firm i in year t , γ_i are Business Unit/Industry fixed effects, δ accounts for the year effect since $Post_t$ is an indicator for the post hierarchical change period, β_1 identifies the *direct* effect of the hierarchical change on the effort measure and $Treated_i$ reflects either the firm treated by a Senior Banker or the RM Regime Switch case. $Treated_i$ is a dummy variable that takes the value of 1 in both years for firms that were assigned to a Senior Banker or an RM switching regime, accordingly to the case under consideration. This variable captures pre-existing differences associated to those firms assigned to each group. If this group of firms corresponds to a special set of firms, this dummy tries to capture the “Firm Selection” effect. Therefore, the interaction term captures the direct effect of the change in hierarchical structure. Z_i is a dummy variable that classifies the firm under analysis according to its status on some underlying soft or hard characteristic. Among soft, or qualitative, characteristics are Management Risk Assessment, Competitive Position Risk Assessment, Risk Management Policies Assessment and Access to Capital Markets. These soft characteristics represent averages of a set of specific questions that evaluate each characteristic.²⁹ Hard, or quantitative, characteristics include Sales-to-Assets, Debt-to-Equity, Return-on-Equity and EBITDA-to-Sales. The variable Z_i takes a value of 1 if the underlying characteristic is in the top half of the distribution in the year prior to the change in structure. Thus, $(Z_i * Post_t)$ captures whether the result is being driven by pre-existing differences in the underlying characteristic of interest Z_i . X_{it} is a vector of k independent observable firm characteristics including long term debt as measured by maturity higher than 3 years, credit risk rating of the firm, collateral support/clean exposure, length of relationship, ownership and years in industry. Otherwise noted, the control group used in the analysis is the business unit that did

²⁹In the Data Appendix I describe in detail the questions that each qualitative characteristic specifically addresses.

not change either its hierarchical structure or the responsibility roles. Finally, the incompleteness of the panel does not allow me to introduce firm fixed effects that would otherwise be desired.

The underlying assumptions in (3) which allow me to interpret β_1 as the direct impact of the hierarchical change may be outlined as follows. (i) Despite some statistically significant differences on certain observable characteristics as described in Table VII, there are no other differences among treated and control firms. They are not firms in a completely different standpoint in their relationship with the bank. Firms are comparable, and they belong to similar industries, with a respectable credit history in the bank. The difference-in-difference approach allows me to control for industry specific shocks and relationship characteristics. (ii) Most of the firms in the sample have multiple sources of funding, including other strong bank relationships and access to local and international capital markets. Switching banks for these firms is easy and costless, so there is no “hold-up” or “lock-in” effect which might bias the answers obtained from the surveys. (iii) All firms in the sample correspond to private large firms in competitive industries. It is difficult then to justify as in Uzzi [1999, 2002] the presence of social externalities and networks in the firm-bank relationships in large business lending. (iv) Dependent variables are perceived effort measures from the clients’ perspectives, thus, the outside economic environment may play a role and affect the answers. The period 1999-2001 in Argentina was one of great social discontent and, if anything, perception of RM’s work could have been adversely affected by the outside environment. Thus, I am confident that there is no “grade inflation” in the effort measures between 1999 and 2001. (v) Although perceived effort measures, they end up closer to a true reflection of effort. As these measures are not formally used in the payment or compensation scheme, RMs do not have the incentives to influence them as they otherwise would, jeopardizing the true spirit of the measure.

Table VIII reports the results from estimation of equation (3) for the Introduction of the Senior Banker case. Column (1) is the most stripped down version of running (3). Results do not differ significantly if to this stripped down version I add either industry fixed effects -Column (2)- or individual RM fixed effects -not reported-. Both results show a positive impact on the perceived effort measures of the SBs. The coefficient on the $Treated_i$ variable is close to 0 and not statistically significant detecting no pre-existing differences at the firm level.

Although this result is significant, one must consider three factors which the regression must account for. (i) A firm may be managed by a different RM at different moments in time. The role of the RM in the firm-bank relationship might impact differently the firms’ perception on the effort they exert. Thus, we need to control for individual RM fixed effects. (ii) As some firms are surveyed in both years I report clustered standard errors where the firm is the unit of clustering, in order to take into account such link and explore common characteristics. (iii) As we are dealing

with an incomplete panel of firms, OLS estimates might be biased if there is correlation between firms with missing observations and the effort measures. To control for this factor, I use probability weights for each firm to account for the missing observation it represents.³⁰ In order for the results to be taken seriously, these factors are introduced in the estimation.

Column (3) includes Industry and Individual SB fixed effects and probability weights each observation. Results under this specification show that on average full delegation of responsibility to Senior Bankers has a positive and significant impact on effort. Moreover, pre-existing differences at the firm level accounted by the coefficient on the treated variable are not significant and close to 0. As I cannot use firm fixed effects due to the lack of repeated observations, Column (4) adds 6 control variables that I collected from credit folders approvals. These controls include long term maturity of debt (covenants), the credit risk rating of the firm - a dummy variable that assigns a value of 1 if the firm is an investment grade company-, percentage of collateralized exposure, length of relationship, years in industry and ownership. Column (4) is the stripped down version of equation (3) adding these firm characteristics. The effect on the effort measures do not fade away. Column (5) controls for the three factors previously mentioned adding also the controls for firm characteristics. As evidence of heteroscedasticity at the firm level in the repeated-cross section analysis is found to be significant, column (6) reports GLS grouped standard errors. GLS clustering reduces significantly the standard errors. Results are robust to these general specifications.

Firm observable characteristics have an important role on the effort measures. In all specifications tested, long term debt maturity, credit risk rating and length of relationship have a statistically significant impact on effort. Reasons for those results are described as follows. (i) The fact that a credit approval facility has a long term debt transaction maturing in 3 years time as a special transaction³¹ raises an issue on the type of covenants the account manager must check and follow-up. Covenants in contracts of 3 year long term transactions are not standard financial covenants. Regular working capital credit lines have standard documentation with MAC [Material of Adverse Change] clauses and plain financial covenants. Structured long term special transactions may have qualitative covenants inducing additional effort from the SB/RM in their follow-up. Thus, it induces a positive and significant impact on the perceived effort measures. (ii) Investment

³⁰I constructed three different sets of weights. Reported on Table VIII are probability weights according to the number of times the firm appears on the survey. The two other weights used and not reported on the table refer to: (i) the different number of times the RM appears in the survey controlling for the fact that some individuals were more surveyed than other ones; e.g. if 3 firms from the same RM were surveyed then each firm received a weight of 1/3; (ii) and their different likelihood of being surveyed represented by the ratio of the number of firms surveyed over the total number of accounts for each RM.

³¹Credit approvals are generally divided in working capital credit facilities and special transaction lines which vary in their tenor.

Grade Rating firms require less ex-post monitoring activities and exposure of the firm with the bank, impacting negatively and significantly in the perceived effort measures. (iii) The positive coefficient on Length of Relationship seems striking at first sight. First, as these are perceived effort measures the fact that the firm-bank relationship is longer can have an impact on it.³² Second, account officers tend to sell more lending and non-lending products to those firms in which a longer relationship is established and developed, as there is more knowledge involved and more interaction between both parties. Both effects move in the same direction of increasing perceived effort measures.

A potential concern regarding the results shown in columns (1) through (6) is that omitted pre-existing differences might be driving the findings on effort. Columns (7) and (8) control for such confounding effects by including pre-existing differences of both hard and soft information variables from clients' credit folders. These pre-existing differences Z_i are dummy variables that take a value of 1 if the firm is in the upper half of the distribution in 1999 for the underlying characteristic of interest. Thus, the interaction term ($Z_i * Post_t$) captures whether the effect of those pre-existing differences is driving the results on effort after the hierarchical change takes place. Z_i is also included separately in the regression. Results suggest that neither pre-existing differences on hard nor soft information about the firms are driving the findings on effort. The magnitude of the impact is not statistically different from the results obtained under previous specifications.

The increase in effort is robust to a wide range of specifications. If the validity of the control group is under question I used then the RMs which were not promoted to SBs as a control group, thus excluding the GRB Unit. Results are robust to the specifications tested in Table VIII. A final check for robustness is the introduction of the average performance measure of effort I constructed as a dependent variable instead of the time the RM devotes to the relationship. Results remain positive and significant.

The magnitude of the organizational change is sizeable given that the mean perceived effort of those individuals who became SBs before the change was 6.09. A better sense of the magnitude of the change is that it represents a jump from the 35th to almost 50th percentile in the distribution of the perceived effort measure.

Regarding the RMs Regime Switch, Table IX shows the results from running equation (3). The control group for this analysis is the GRB Unit. I excluded all firms related to SBs. Using the same procedure as the Introduction of Senior Banker case, I can now disentangle the *differential effect* on effort of RMs coming from a 1-1 relationship as compared to those originally in a 1-2 relationship

³²A causality issue could be raised at this point. I will ignore it for the moment.

by introducing two additional interaction terms. Instead of computing the average effect of all RMs using $(Treated_i * Post_t)$, I classify treated individuals in those coming from a 1-1 and those from a 1-2 relationship, and introduce both interaction terms, $(Single-Multiple_i * Post_t)$ and $(Multiple-Multiple_i * Post_t)$ in regression (3). Table IX, Panel A shows the average impact of the change, while Panel B shows the differential impact on effort. In the differential effort impact case I do not use Industry Fixed Effects since they could be correlated with the team assignments and with the distribution of industries among RMs polluting the results. When no RM fixed effects are present in the regression, an indicator for relationship managers in a single 1-1 hierarchical relationship in 1999 is included. This dummy controls for the pre-existing differences in effort for the two groups. It allows for the constant to be different among the two different groups and, therefore, to interpret the coefficient on the interaction term as a *relative* increase in effort. Noting this difference, results from columns (7) to (11) show that those RMs in a 1-2 relationship exert more effort in 2001 relative to the other group; *i.e.* their increase in effort was higher than the increase in effort observed for the other group. The interaction term $(Multiple-Multiple_i * Post_t)$ for the different specifications is positive and significant as compared to $(Single-Multiple_i * Post_t)$ which although positive it is not statistically significant. This result suggests that the effort increase is due to the incentive view of delegation rather than a subjective performance evaluation.

The positive effect on effort emerging from the role of initiative and responsibility outweighs the negative effect emerging from the reduction in monitoring, for both groups. As a result, “empowering managers” increased the effort exertion independent of the hierarchical structure which account officers were originally assigned to. Theoretical predictions are not clear regarding the relative differential effort across groups. I found that individuals originally in multiple relationships displayed a higher increase in effort. The fact that the increase in effort arises from those firms managed by RMs in a 1-2 relationship in 1999 rejects the relative performance evaluation theory.

5 Confounding Stories and Heterogeneity Effects

Further selection issues are considered in this section. Since specific firm characteristics and internal bank credit rules are likely to influence several aspects of the firm-bank relation, and in particular the monitoring activities, other factors apart from the organizational change could be driving the results previously found for the impact on effort measures.

The purpose of this section is twofold. First, I intend to address the selection issues related to the assignment of firms to account officers. In particular, I analyze specific firm characteristics and internal credit rules that might have affected effort exertion and how they differ across the

set of firms assigned to Senior Bankers as compared to those firms assigned to the remaining relationship managers. I then test for robustness of the effort findings to the introduction of such confounding channels as determinants of effort allocation. Second, while taking into account these firm characteristics and other internal bank criteria that may have influenced effort measures, I shed some light on the process of *ex-post* monitoring activities for large business lending. Empirical literature has not yet been able to provide a clear understanding of how such process takes place in large organizations. This section intends to contribute in that direction too.

A first unconditional view of the data, displayed in Table X, shows no striking differences in the set of characteristics of firms assigned to Senior Bankers compared to the firms assigned to the remaining account officers in the year prior to the change. Each underlying characteristic of a firm is represented by a dummy variable, where a value of 1 is assigned if it belongs to the top half of the distribution of all firms in that aspect in the year of 1999. Exceptions are Average Assets (MM), Return on Assets (%) and Return on Equity (%), where average values are shown. Differences associated with some qualitative characteristics such as Management, Industry, Competitive Position and Key Success Factors Assessment of the firms are also examined. Using a Mann-Whitney test for the equality of distributions performed across the two samples of interest, I found no evidence of pre-existing differences in the characteristics of the set of firms that were assigned to Senior Bankers in 2001 relative to the remaining firms.

The alternative reasons that affect the extent and effectiveness of monitoring as well as might have an impact on perceived effort measures, can be classified in the following groups:

- (i) *Frequency of Interactions*, as repeated refinancing of debt increases the contact that account officers have with the firm, allowing for a revision of contract terms, credit denials, and for updating credit information related to the firm. Better knowledge of the firm might give an advantage to the officer in the speed of approval and evaluating new financing alternatives.
- (ii) *Bargaining Strength & Hold-up Issue*, as the extent of control the bank has over the firm is the ultimate determinant of its monitoring capability. Banks are able to monitor firms as long as they can have the ultimate control of the relationship. Although the presence of a hold-up problem is not common in corporate lending, as large firms have many outside financing options, other factors may have an impact on the bargaining strength position of the bank.
- (iii) *Concavity*, as banks monitor more closely those firms that are less profitable.
- (iv) *Specialization*, as banks might be specialized on a specific industry or market. Although the portfolio of the bank under analysis is well diversified, total asset exposure to each specific industry has credit limit constraints. Analyzing the portfolio composition of 1999 and 2001, there is no clear

evidence of specialization on any particular industry.

(v) *Internal Bank Criteria*, as it is not clear whether account officers follow strictly hard information to follow-up firms or use other vital credit criteria which is internal to the bank and is documented in credit manual policies.

The procedure adopted in the empirical analysis intends to capture the possible sorting of firms to Senior Bankers examining whether the increase in effort previously observed was driven through these five channels other than the organizational change. I use specific information on firm characteristics at the year prior to the change in structure related to the determinants, mentioned above, to estimate the following equation:

$$Y_{it} = \alpha + \gamma_i + \gamma_0 Treated_i + \delta Post_t + \theta X_{it} + \beta_1 (Treated_i * Post_t) + \beta_2 (Z_i * Treated_i * Post_t) + \beta_3 (Z_i * Post_t) + \beta_4 (Z_i * Treated_i) + \beta_5 Z_i + \varepsilon_{it} \quad (4)$$

As in equation (3), Z_i is a dummy variable that takes the value of 1 if the firm is in the top half of the distribution in the year prior to the change in structure for the characteristic under consideration. Equation (4) estimates the effect of the change in structure on effort allowing also for the *differential* impact that the alternative channels have on the effort measures. These channels are represented by the inclusion of firm-specific characteristics measured by Z_i . These Z_i 's are related to each of the five possible determinants mentioned above. Their impact after the hierarchical change takes place and their effect if the particular firm was given to a Senior Banker are captured by the appropriate interaction terms constructed for the variable Z_i , $(Z_i * Post_t)$ and $(Z_i * Treated_i * Post_t)$, respectively. Comparing these two terms and finding a difference on the perceived effort measure reflects a difference on how account officers with higher authority handle their accounts.

Several variables are used as Z_i to examine alternative channels through which effort measures might have been influenced and affected monitoring activities:

Capital Turnover. As higher working capital needs induces more contact between the client and the account manager increasing the understanding of the relationship, it might be the case that if there is a frequency of interaction effect, it should appear on those firms with higher short-term capital needs. I use the ratio of Sales-to-Assets as a measure of Capital Turnover to test for the existence of a differential impact through the frequency of interactions.

Leverage and Size. Banks exert higher control and concentrate their monitoring activities on firms that are more leveraged. If this is the case, firms with higher debt-to-equity ratios are monitored the most. I use Debt-to-Equity to test for the Bargaining Strength effect. As other potential

determinants to test for these effect I use firm's Net Worth (bigger firms are likely to have more outside options), an indicators of Other Bank Relationships and Access to Capital Markets. These variables provide some evidence for the dependence of the firm on the bank.

Cash Flow Generation. Sorting could have been done in such a way that Senior Bankers were assigned the less profitable firms with low cash flow generation possibilities and with a higher probability of default. I use Return-on-Equity, Return-on-Assets and EBITDA-to-sales to test for the Concavity effect.

Industry Classifications. Industry fixed effects are used to test for the specialization effect.

Generally each bank has its own rules on how to allocate funds and handle accounts, and such internal criteria need not coincide with any particular quantitative or qualitative characteristic that one may think of. My previous experience working in the bank triggered a concern on possible selection of firms on those grounds, as well as their importance as determinants of monitoring activities. Therefore, I have also used as alternative variables Z_i , internal bank criteria such as: (i) if there is a significant increase in the total amount of money lent to the firm, (ii) if there is a downgrade in the firm's credit risk rating, (iii) if there is an adverse change of collateral/support or in the documentation for that firm, (iv) if the firm is out of the target market of the bank, (v) if the amount and tenor is above the approved limit for that credit risk rating firm, and (vi) if there is a major risk event at the company. For these cases, Z_i is a dummy variable that takes a value of 1 if the firm presents a "yes" in the criteria under consideration.

In addition, Access to Capital Markets Risk Assessment is introduced as a control variable in all of the regressions, as monitoring efforts are likely to be smaller for firms with access to multiple funding options and with public information widely available.

Results for the estimation of equation (4) are presented in Table XI. Column (1) tests for the theory of monitoring based on Frequency of Interactions using Sales-to-Assets and, although the effect goes in the direction predicted by theory, it is not statistically significant. Columns (2) and (3) show the results for the Bargaining Strength effect. More leveraged firms present a positive differential effect on perceived effort, as predicted by theory. Despite this positive and significant effect, the coefficient of the direct impact, β_1 , does not lose its significance. The effect of Other Bank Relations on effort however is close to 0 and it is not statistically significant. Using Net Worth, not reported on the table, indicates that the size of the firm does not play a role in exerting a differential effect on effort. Columns (4) and (5) test for the Concavity effect on monitoring. As predicted by theory, a higher Return-on-Equity has a negative effect on perceived effort measures and, although not reported, qualitatively similar results are found for Return-on-Assets. The effect

of EBITDA-to-Sales on effort, although in the direction predicted by theory is not statistically significant. Both ROE and ROA have a higher impact on effort measures than the cash flow generation measure. Column (6) uses an overall measure of the financial position of the firm taken from the credit scoring of the bank. Columns (7) to (10) exhibit the results found for the importance of Internal Bank Criteria on effort. A significant increase in the amount lent, a downgrade in the risk rating and an adverse change in collateral for the firm all have a positive and significant differential impact on effort exerted. In terms of magnitude of such effects, change in collateral/support in the documentation has the strongest impact. Column (9) shows that a significant increase in facilities and a change in collateral affect effort through independent channels. These results highlight the importance of the role played by relationship managers on monitoring activities. Finally, an interesting result by itself is the effect of Access to Capital Markets on effort, which is robust to all alternative specifications. The existence of alternative funding options is shown to have a negative impact on monitoring, as predicted by theory.

Two conclusions are drawn from Table XI. The first one is the general finding that alternative monitoring stories *are not* driving the results previously obtained for effort. There is a differential impact on effort through other channels other than the organizational change, but the direct impact of does not disappear. Second, the analysis allows for a better understanding of how monitoring activities evolve in large organizations. Specifically, leveraged and profitable firms, internal bank criteria and access to capital markets are shown to be important determinants of effort exertion and monitoring activities.

Although there is not much work done in the empirical literature on large business lending, there is a general view that in large organizations *ex-post* monitoring does not play a major role. In other words, that credit allocation decisions follow more objective criteria, or that hard information dictates decisions. Contrary to such view, the results I find show the importance of internal bank criteria on monitoring activities. The role played by such internal criteria sheds light on the determinants of monitoring inside large organizations and identify some of the mechanisms through which banks may influence firms' behavior.

6 Decentralization of Control and Usage of Soft Information

This section addresses if the improvement in effort measures is a result of a reduction in bureaucracy, or because account officers make better use of their decision making authority by recognizing their efforts might have an impact on results.

Stein [2002] develops a simple framework that points out the influence of the organizational

structure on the process of generating and using different forms of information. Under a centralized hierarchical structure, where there is separation between authority over final decisions and research, incentives will be higher towards gathering information that is easy to store and communicate to others. An additional cost is imposed on the collection of soft information as extra resources must be devoted to the process of credibly transmitting it. Under a decentralized structure, research and authority are held jointly so no additional costs are imposed on the collection of soft relative to hard information. As a consequence, small hierarchies will perform better when information is soft, while large ones will do so when information is hard, or, in other words, can easily be passed on along the structure.³³

I exploit the change in the hierarchical setting to link the role that decentralization of authority has with the usage of soft relative to hard information in pricing decisions. Given the existence of differences in transmission costs between soft and hard information, I explore the variability of authority and team size across business units to test for Stein [2002], analyzing the impact that soft information has on one of the variables that account officers can influence the most, the pricing of working capital loans. I check whether account officers who receive more authority use their soft information differently than individuals to whom authority is only partially delegated. The nature of the change provides a suitable setting to evaluate the role and usage of soft information inside a large organization.

It is clear from the previous analysis that the hierarchical structure change increased the time relationship managers have to devote to their accounts and to acquire new information regarding the firms they handle. Senior Bankers were given full delegation of authority - freedom to allocate their time and effort over the accounts they handle - and therefore have no need to report or convince a superior of their findings. Decisions from SBs occur in a decentralized environment, allowing for their incentives to collect and their ability to use the collected information to differ from the ones faced by the remaining relationship managers, those in the regime switch. The advantage of decentralization is that it strengthens the research incentives of line managers. Officers to whom only partial authority was given experienced more time to devote to research activities, but as they still work under a centralized structure, as part of a team, they know in advance that part of

³³Jensen and Meckling [1990] refer to the trade-off of assigning a particular decision right to different levels in the organizational structure. The trade-off balances decreasing costs of acquiring specific knowledge versus increasing costs of inconsistent objectives as one moves away from centralized towards decentralized structures. They refer to the allocation of decision rights as: “Ideally this means collocating decision responsibility with the knowledge that is valuable in making particular decisions. This requires consideration of the costs of generating and transferring knowledge in the organization, and how the assignment of decision rights influences incentives to acquire information”. Aghion and Tirole [1997] also mention the process of communication and the role of authority. These authors do not refer explicitly to the concepts of transmission and usage of soft relative to hard information across hierarchical structures.

their research effort on collecting soft information will be lost in the transmission process to their superiors. An additional cost is imposed on such officers on the process of collecting soft information, as resources must be devoted to providing the necessary documentation, verifiable proofs in order to credibly convince their superiors. In other words, the information must be hardened by these officers for it to be communicated to their superiors. Such difference in the transmission cost of soft relative to hard information across relationship managers may induce them to gather and to use soft information in a different manner. Therefore, the reliance on soft relative to hard information on certain decisions depends partly on the authority given to the officer who is responsible for generating such information. As their team size is smaller and their authority is higher, Senior Bankers' pricing decisions should rely more on qualitative evidence than the decisions of those account officers who were not promoted do.

Before proceeding to the empirical strategy and results, three points should be addressed. First, the reasons for considering the pricing dimension decision instead of another dimension. Second, the specific type of pricing to use and last, the process of "hardening" the soft measures used in the analysis. Reasons are described as follows.

(i) *Availability of Credit and Pricing* are the two possible dimensions to consider. Both have been extensively analyzed in the literature for small business lending practices.³⁴ However, in large corporate lending it is difficult to think on the availability of credit as a dimension of decision for account officers. Corporate clients generally have a wide range of alternative sources of funding as opposed to small business firms. The availability of credit is a non-binding dimension for the account officer. Therefore, I use the pricing decision as my benchmark to analyze the impact on the usage of soft information.

(ii) *Pricing of Working Capital Loans (Core Lending)*, as this is the lending product which relationship managers can influence the most. The spread charged to the firm is under their command. Although there is some scope for RMs to make use of qualitative information obtained about the firms they handle, such procedure may not be easy to observe or quantify. Prices seem a good alternative to do so. The room a relationship manager has for adjusting spreads charged differs greatly across products, as some products include fees and require transactions that go far beyond the relationship manager's range of authority. Three portfolio (lending) products are identified within the bank; core lending, asset-based finance and trade finance. For the particular case of core lending products, relationship managers experience more flexibility in terms of pricing decisions as

³⁴Mostly all references in the relationship lending literature correspond to the case of small-business lending practices. Among others, past empirical work include Petersen and Rajan [1994] and [1995] on pricing issues, Blackwell and Winters [1994] and Cole [1998] on availability of credit and Petersen and Rajan [2001] on the role of distance.

compared to the other two products. In Liberti [2002], I test for the cross-selling hypothesis for the whole portfolio of the bank for the period 1999-2001 including both large and small business lending. Table XII reproduces some of those results for large corporate clients. In Column (1) for a \$100,000 increase in non-lending revenues, the annual spread charged on core lending products is reduced by 0.67%. This is not the case for Trade Finance or Asset-Based Finance products. All specifications include year and firm fixed effects. In order to account for the incomplete panel of firms, each regression is probability weighted according to the number of times each firm appears in the sample. Results suggest that account managers have flexibility in the way core lending products are charged. There is no other Division or Department attached to this product other than relationship managers. Therefore, I use the pricing of working capital loans to test for Stein's theory.

(iii) "*Hardening*" *Soft Information*. Although by definition soft information is difficult to measure, I use the word soft for that information which was initially not available in hard numbers (Petersen [2002]). The organization quantifies qualitative measures assigning a numerical score. Although the hardening process, these qualitative evidence is costly and takes time and resources to collect. I consider this qualitative evidence soft information as opposed to hard information which is costless to obtain. Whether this process of quantifying soft implies losing information or not is beyond the scope of the paper.

To measure the degree of reliance on soft information I follow the same strategy used in equation (4) whereas now the dependent variable is the pricing of working capital loans and the coefficient of interest is the one associated with the variable ($Z_i * Treated_i * Post_t$). It analyzes the impact that firms with an underlying soft or hard characteristic Z_i , after the change, and handled by either SBs or RMs switching regimes, have on the pricing of working capital loans. As qualitative underlying characteristics I use Management, Competitive Position and Industry Risk Assessment, where each one represents an average of a set of specific questions that evaluate the particular measure. Hard characteristics include EBITDA-to-sales and ROE, among others, although only these two are reported.³⁵ Length of Relationship and Access to Capital Markets are included in the analysis as control variables to capture the independent influence that each one has on the pricing of working capital loans as a source of information (private and public) other than hard and soft information (Petersen and Rajan [1994]). Results from running equation (4) are shown in Table XIII for both hierarchical changes. Panel A shows the Introduction of Senior Banker Case while Panel B exhibits the RMs Regime Switch.

³⁵A value of 1 is assigned to a particular field, either soft or hard, if the firm is in the top 50% of the distribution on that category in the year prior to the change.

Results suggest that information is used differently according to the degree of authority experienced by the account officer who handles the account. In particular, such results corroborate that authority influences the usage and reliance on soft information in pricing decisions.

Columns (1) to (3) measure the independent effect of each of the soft measures on the pricing of working capital loans for the SBs case. The effect is negative and statistically significant for the three variables under consideration. Management Assessment exerts a higher negative impact on the interest rate as compared to Competitive Position and Industry Assessment, on average negative 8.42%. Column (3) shows that the three variables affect the spread through independent channels. Columns (4) and (5) show the impact of EBITDA-to-Sales and ROE. Both hard variables have a negative impact, although statistically significant only for the first one. The magnitude of the impact is considerably smaller than the one found for the soft measures, on average a negative 2.56%. Columns (7) to (10) test for the reliance on soft and hard variables simultaneously. Although the direction of the impact is consistent with theoretical predictions for all variables under consideration, soft variables are statistically significant in all specifications, and the magnitude of the impact on pricing is sizeable as compared to hard measures. These results highlight the importance that management and soft characteristics impose on relationship managers' pricing decision. Although not reported in the table, I also use as hard measures Sales-to-Assets, ROE, and Debt-to-Equity. Results are qualitatively and quantitatively the same. Thereby, for firms handled by relationship managers with full authority over their accounts, the pricing of working capital loans responds to a higher extent to variables that denote soft relative to hard information. For the remaining firms, held by account officers with partial authority, who still need to engage in direct reporting to UHs, transmission of soft information is costly and such soft dependence is not observed on pricing decisions. Columns (11) and (12) show such results. Hard measures are the ones that are statistically significant and exert a larger impact on the pricing decision as opposed to soft variables in this case. Under all specifications, Access to Capital Markets is found to have a negative impact on the pricing decision, between 2.71% and 3.68%, depending on the specification under consideration. Length of Relationship is not found to be statistically significant and has a mild effect on the spread charged.

I performed several robustness checks and results are unchanged. (i) The spreads reported on Table XIII include commissions and fees charged on working capital lines. Committed credit facilities for working capital purposes may sometimes have a fixed cost of usage.³⁶ I also computed

³⁶Credit facilities are divided into committed and uncommitted facilities. Committed facilities have attached a fixed fee or commission for the credit line approved to the client. It is generally a percentage of the total amount approved to be paid up-front.

the spreads using net revenues from funds without any fees or commissions charged. Results do not differ. (ii) I also used the spreads on the other two portfolio products, Asset-Based and Trade Finance. Results are not statistically significant and do not hold under these specifications. Such findings are consistent with the underlying assumption that relationship managers only influence the working capital loans, as opposed to products offered by other divisions. (iii) I also checked with hard underlying characteristics of year 2001 instead of year 1999. Results are qualitatively unchanged.

As predicted by theory, usage of soft information is higher for firms held by officers with full authority, as measured by their pricing decisions on working capital loans. Their greater incentives in collecting such information emerges both from their lower cost of putting collected information into use and from their direct authority over how to use such information. Relationship managers who display only partial authority over their accounts must credibly convince their superiors about the authenticity of the information, as well as dispute the process over the way such information should be used. Thus, they face higher incentives to divert their research effort to the collection of hard information, which is easier to transmit. As a consequence, the pricing of working capital loans is shown to rely more on variables that reflect soft information when the officer who holds the account has full authority, and on variables that reflect hard information when authority of the officer who holds the account is only partial. This suggests that the delegation of authority increases managerial effort, not only because management spends less time in reporting to their superiors, but also because they recognize that their efforts will have a greater impact on outcomes.

7 Is the Change in Structure Meaningful and Productive?

It was established in the preceding analysis that the change in structure had an impact on the perceived effort measures of both RMs and SBs and on the way it could impact the usage of soft information. However, it is not clear whether the impact of the change is meaningful, as it is difficult to determine the magnitude and size of the change from the perspective of the bank using only perceived effort measures. The fact that account officers were delegated more authority and experienced additional time to spend with their clients does not necessarily mean that the change in structure was productive to the bank. This section addresses this issue by considering: (i) if RMs became more embedded in the firm in terms of acquiring a better understanding and a higher knowledge of the firms' financial needs and transactional banking services; and (ii) understanding the welfare implications and impact of the change from the bank's financial performance ratios.

In order to assess whether the increase in perceived effort can be supported as a consequence

of productive interactions, I examine the degree of closeness between the firm and the bank. An increase in time spent with the firms may be associated with activities other than learning about the firm's financial needs. Extended lunch hours or other related meetings may feed a relationship on non productive grounds and still impact effort measures positively. Therefore, the ultimate goal of this section is to give a magnitude for the size of the change, which is not straightforward from the perceived effort measures analysis.

There are several reasons to believe that the change in the structure of the Corporate Bank could have impacted the daily business of the firm-bank relationship and ultimately the bank's performance. Among others:

(i) *Closeness of the Firm-Bank Relationship*. It is not easy to determine which are the non-financial needs and transactional banking services that a firm requires from any commercial bank. It takes time and commitment from the RM and the bank to establish a credible and close relationship between both parties in order to understand the clients' needs. Corporate lending occurs in an environment where multiple products are traded, as opposed to small business lending. An officer who is in line with the firm's daily business and financial needs will be able to offer suitable products and services. The fact that the change had an impact on the time RMs spend with their clients induces a better knowledge of the firms' requirements and may increase the cross-selling of services per client.

(ii) *Monitoring and Project Supervision*. A closer relationship could impact the way monitoring activities are performed. It is common practice in corporate lending that firms tend to deviate short term working capital loans to other long term capital activities, i.e. financing long-term fixed assets. Project supervision of specific investments that firms engage in and no incorrect use of specific targeted credit facilities would be improved with an in-depth firm-bank relationship, yielding a positive impact on the earnings-per-asset of the bank.

(iii) *Risk Management Activities*. Once a credit transaction has been approved, monitoring of risk exposure is the ultimate goal of each account officer. By carefully monitoring individual credit transactions, RMs can recognize trouble exposure at early stages of the credit life, giving her a further array of possibilities for implementing remedial management techniques to minimize losses. Either avoiding direct reporting for the case of SBs or minimizing bureaucratic overlapping of activities and overruling as in the case of RMs increases the possibility that remedial management is taken at earlier stages, thus affecting overall profitability for each account. The efficiency of the RM in recognizing correct opportunities has a direct impact on the profitability of the bank.

The empirical strategy follows the same procedure taken in equation (2). Using a difference-

in-difference approach I test for the effect that both full and partial delegation of authority have on banks' various performance measures as: (i) Cross-Selling Ratio; (ii) Profitability Index; (iii) Earnings-per-Asset and (iv) Number of Non-Lending Products. Table XIV, Panels A and B summarize the results of running (2) on these four measures for the two cases of interest, Senior Bankers and Relationship Managers.

To determine the impact of the change in terms of closeness between parties, as well as knowledge of the firms' specific needs, I use *cross-selling* measures I constructed from lending and non-lending revenues. Revenues were taken from the Financial Control Division for each firm that was surveyed. To compute total lending revenues I aggregated the portfolio products, i.e. Core Lending, Trade Finance and Asset-Based Finance products each firms uses. To compute non-lending revenues I considered the whole array of financial services offered by the bank - Trade Services, Asset and Security Trading, Capital Markets Underwriting, Cash Management Services, Corporate Finance and Structured Finance, Derivatives, Foreign Exchange, Funding and Gapping, Investment Asset Management and Security Services (ADRs)-. As the relationship manager becomes closer to the firm, the ratio of revenues obtained from non-lending relative to lending products will be higher. Observing the cross-selling ratio is one attempt at getting to know how embedded the bank is in the firm and it is the first attempt to capture the magnitude of the organizational change in terms of real bank's performance. Column (1), Panels A and B, display the cross-selling results for SBs and RMs respectively. The impact on the cross-selling is positive and significant for the Senior Banker case, and it is not statistically significant for the RMs' Regime Switch case. The magnitude of the change is sizeable, with average increases of 16% and 14% respectively shown in Column (2). In Column (3) I add firm controls -Long Term Maturity, Investment Grade Rating Firm, Collateral/Clean Exposure and Length of Relationship-. Results for both cases are robust to this specification. An additional test to see the cross-selling impact is performed using the number of non-lending products as a dependent variable. Column (8) shows that the impact on the number of non-lending products is positive, although it is not statistically significant. Results show that for both organizational changes, cross-selling of financial services increased as a result of the higher knowledge of firms' specific needs.

The main problem that arises in the analysis of cross-selling is related to the issue of delegating authority. Cross-selling can be harmful if it is done at the expense of destroying earnings-per-asset. It is possible that delegation of authority could have led account officers to charge less for lending products in order to increase cross-selling since one of the goals account officers generally aim at is increasing cross-selling ratios. Columns (4) to (7) in both panels check for this concern using as dependent variables, earnings-per-asset (EPA) and a profitability index. These variables are defined

as the ratio of all lending revenues including commissions and fees over average assets used by the firm and total revenues over average assets used by the firm on an annual basis, respectively. Both measures significantly increased as a result of the change. As Table VII Panel B shows, the mean of average assets that firms use does not change across years. The result on EPA is a pure price effect reflecting an increase on spreads charged to firms, possibly due to the deteriorating economic situation of the country and not to a decrease in the exposure that corporate clients have with the bank. Results suggest that the change had a strong impact on those firms handled by Senior Bankers (EPA increased 2.7%) and a mild one for those firms handled by RMs (0.6%), which is not statistically significant. Results also show that cross-selling has not increased as a consequence of a negative impact on the interest rates charged to firms. The overall performance of firms from the bank's financial perspective is analyzed by looking at the profitability index in Columns (6)-(7). Results are consistent with both the increase in cross-selling activities and earnings-per-asset, allowing for the conclusion that the hierarchical structure change and delegation of authority to SBs/RMs was not harmful to the financial structure of the bank.

As account officers are given more freedom to allocate their time and effort across accounts, an increase in cross-selling activities is observed. It is shown that the previously documented increase in perceived effort is legitimately associated with an increase in the closeness between the firm and the bank and therefore the change is found to be both meaningful and productive from the bank's perspective.

8 Concluding Remarks

This paper empirically attempts to understand how a change in the hierarchical structure of a large organization affects the way employees carry out their activities, and its impact on their daily business performance. The specific setting used for analysis is a large, private foreign commercial bank in Argentina. The paper also exploits such a setting to link the impact of the organizational change to the firm-bank relationship lending literature.

From the organizational design standpoint, to the best of my knowledge, it is the first attempt to test for an incentive view of delegation along the lines of Aghion & Tirole [1997], exploiting the reasons why decentralization may induce higher effort relative to centralization of control. I construct a test for the role of incentives in allocation of effort versus traditional monitoring theory.

The paper shows empirically how a change in the hierarchical structure of a large organization can impact incentives of the lower layers of the hierarchy by inducing higher effort as a direct consequence of higher authority. I use effort measures taken from quality surveys done annually

to a random set of firms and firm specific characteristics taken from credit folder approvals. The analysis is performed at both the individual relationship manager level and at the firm level. The identification strategy is based on using a subset of account officers which were not affected by the organizational change. I find strong empirical evidence that both full and partial delegation of authority induces higher effort exertion, as measured by the time relationship managers devote to their corporate clients, as well as in terms of the number of complaints received by the bank. At the RM level, the total number of complaints decreased after the hierarchical change and a subset of those complaints, time complaints, which also decreased, was also used to check for robustness of the results. At the firm level, the positive impact found on effort is shown to be robust to the inclusion of a variety of firm characteristics.

I particularly address selection issues at both the RM level - ‘special’ account officers in 1-1 relationships in 1999 and ‘special’ account officers promoted to Senior Bankers- and at the firm level - ‘special’ firms given to Senior Bankers. By analyzing possible confounding stories and alternative explanations through which perceived effort measures could have increased other than the hierarchical change, I conclude that differences in pre-existing characteristics are not driving the results. Furthermore, the paper sheds light on a small but growing line of research, the large-business lending relationships. I point out some of the mechanisms through which banks may influence corporate firms in terms of monitoring activities. Internal credit rules within the bank as changes in collateral or increase in total facilities, other than more traditional monitoring stories such as bargaining position of the firm vis-à-vis the bank and profitability, appear to have a differential impact on the effort that relationship managers exert on the accounts they handle.

Despite these other alternative monitoring determinants, the direct effect of the hierarchical change on effort does not disappear, implying that the change had an effective impact on the incentives of account officers.

Results suggest that the organizational structure of an institution has a strong influence on the way activities are performed and how resources are allocated throughout the different divisions. The paper is the first contribution on these grounds.

Of course the increase in effort could be because there was a reduction in the layers of bureaucracy giving account managers additional time. I test whether the improvement is because managers make better use of their decision making authority. The paper contributes to the information production and the use of soft information literature by providing a direct test. Exploring the differences in degrees of authority and team sizes, I construct a test for Stein [2002] and provide empirical evidence for the role and usage of soft relative to hard information on certain decisions relationship managers are responsible for. Results are consistent with predictions from the theory.

This suggests that delegation of authority increases managerial effort not only because management spends less time reporting to bosses, but also because they recognize that their efforts have an impact on the usage of soft information.

As the transmission costs of soft information differ among team sizes, reliance on qualitative evidence in pricing decisions is found to be higher for those account officers with full delegation of authority. Separation of authority and research adversely affect both the incentives and the ability to gather and use the collected soft information. This induces higher usage of hard relative to soft for account officers in larger team sizes who experience only partial authority over final decisions. Pricing relies more heavily on hard measures for such officers.

As it is difficult to quantify the impact of the hierarchical change solely from perceived effort measures, the last step is to analyze the welfare implications of the change from the bank's perspective. An in-depth knowledge of the firms' needs and a closer firm-bank relationship made it possible for cross-selling activities to increase. Furthermore, earnings-per-asset were not harmed for such increase, which leads to the conclusion that the change in structure was meaningful and productive for the bank. These results confirm the importance and the role that relationship managers have in large-business lending.

This paper has taken a first step towards testing an incentive view of delegation theory by analyzing the hierarchical structure of a large organization and understanding the impact of differential authority among its employees. The paper confirms the view that organizational structure does play a role on final outcomes and decisions, in this case corporate lending relationships. Further research on other type of organizational structures and activities would improve the understanding of its influence on individual behavior.

A Data Appendix

The purpose of this data appendix is to provide a description and a precise definition of all the variables used in the empirical analysis of the paper. The data used in this paper is a subset of the data I collected between the months of July and December of 2001 from the private commercial bank in Argentina. The data can be classified into 4 main groups:

1. Quality Survey Perceived Effort Measures Data;
2. Individual, Portfolio and Letters of Complaints Relationship Managers Data;
3. Firm Soft and Hard Variables Data;
4. Firm Products and Revenue Data.

A.1 Quality Measures

Quality Measures were obtained from the Quality Team Division. On an annual basis an independent third-party firm is hired by the bank to perform quality surveys. Surveys are targeted to evaluate the role of relationship managers in analyzing the status of the firm-bank relationship. The surveys include questions about the overall performance of the bank, degree of involvement of other sectors and the satisfaction with the attention corporate clients receive as a whole. Each question is answered using a 1-7 rank that reflects an increasing degree of satisfaction. Regarding the specific questions related to the relationship managers, I used the following selected questions when constructing the perceived effort measures:

[$\text{Effort}_i^{\text{A}}$]: Time the RM devotes to the relationship and ability to communicate and access her/him.

[$\text{Effort}_i^{\text{B}}$]: Attitude of the RM towards managing the account.

[$\text{Effort}_i^{\text{C}}$]: Knowledge of the relationship and firm's needs regarding financial and transactional banking services.

[$\text{Effort}_i^{\text{D}}$]: Solutions proposed and provided by the RM.

[$\text{Effort}_i^{\text{E}}$]: Speed and efficiency of RM's response to the firm's requests.

[$\text{Effort}_i^{\text{F}}$]: Efficient coordination of the sectors involved in providing solutions.

[$\text{Effort}_i^{\text{G}}$]: General satisfaction with the RM in handling the relationship.

[Aggregate_i]: Average RM performance according to other measures that *specifically* relate to the role of the RM in managing the account including measures **A**, **B**, **C** & **E**.

A.2 Relationship Manager Measures

Individual account officers variables are classified according to (i) personal data, (ii) total portfolio composition of each account officer and (iii) qualitative evidence produced by letters of complaints from corporate clients. The sources from where these variables were obtained vary within the bank. A detailed description is provided as follows.

1. *Personal Data.* I asked 4 specific questions to each relationship manager/senior banker in the Corporate Bank. For those present in 1999 and not in 2001, I cross-checked the information required with the Human Resources Division. The variables asked and used in the RM level analysis include:

[**Age**]: In years.

[**Gender**]: Male/Female

[**Experience**]: Measured in months, period since the individual became staff of the bank.

[**Compensation**]: Did your compensation scheme change as a consequence of the hierarchical structure change?

2. *Portfolio Composition Data.* The source of this data is the Credit Administration Unit of the bank. For each account officer for both years 1999 and 2001, I aggregated all the firms they managed at each point in time and computed the total portfolio composition under their responsibility. Attributes of the portfolio are considered. I also took some bank characteristics for each account officer in terms of the industry they were concentrating at that time. Variables include:

[**Number of Accounts**]: Total number of accounts with credit exposure that each RM handles.

[**Business/Industry Unit**]: Each Business Unit is classified according to a specific industry. Also, each client is assigned a specific 4 digit-SIC according to the industry and business they belong to. An alternative measure I used in the regressions for the Business/Industry Unit is the one-digit SIC code.

[**Size of Unit**]: Total number of account officers in a Business Unit.

[**Total Loan Portfolio Outstanding**]: Total loan portfolio exposure and committed facilities aggregated across all firms that each RM handles.

[**Total Credit Facilities Approved**]: Total credit facilities approved aggregated by all firms per RM. This is the total amount approved per firm and does not necessarily reflect the exposure with the firm under consideration.

[**Cross-Border Risk-Approval**]: Accounts for the share of total loan portfolio per RM which is approved outside the local branch of the bank. Any credit facility approval is composed by two

risks: commercial and country risk. Commercial risk is the risk that financial obligations to the bank will not be paid on time. It is a customer-related risk, as the dimension of the risk depends on the customer's willingness and ability to fulfill all the obligations with the bank. Country Risk is a broad risk including political, convertibility and transfer risks. Cross-Border Approval refers to that situation in which some foreign branch outside Argentina approves the Commercial Risk of the firm under consideration.

[Credit Classification Type I]: *Current*. No evident weakness. Accrual Assets.

[Credit Classification Type II]: *Issues Raised on the Client*. Credits show evidence of weakness in borrower's financial condition or credit worthiness. Credits may be subject to non-credible repayment schedule, lacking correct collateral, credit information or the documentation is not correctly signed. Assets are on-accrual basis.

[Credit Classification Type III]: *Substandard*. Normal repayment of principal and interest may be or has been jeopardized. No loss is yet foreseen. Non-Accrual Assets is a possible scenario.

[Credit Classification Type IV]: *Doubtful*. Full payment appears questionable on basis of current information. Certain degree of loss is possible under this circumstance. Non-Accrual Assets.

3. *Letters of Complaints*. From the Customer Service Division I manually counted the number of letters of complaints that the bank received from its corporate clients and that are related to the role of relationship managers. I counted both letters of complaints and bad comments for the years 1999 and 2001.

[Complaint]: Number of Letters of Complaints aggregated at the RM level.

[Time]: Dummy variable that assigns a value of 1 if at least one of those letters of complaints *specifically* refers to the impossibility to communicate and access the RM.

[Bureaucratic]: Dummy variable that assigns a value of 1 if at least one of those letters of complaints *specifically* refers to the slow speed of the RM in answering clients' concerns.

A.3 Firm Level Measures

I manually collected firm level data from credit folders facilities approvals. I used a subset of the data I collected at the firm level by matching those companies that were surveyed with information from their credit files. Firm level data includes both hard and soft measures, as well as internal bank criteria regarding the way credit facilities are approved. I classify these measures according to: (i) hard quantitative variables; (ii) business risk assessment soft variables and (iii) internal bank criteria variables.

1. *Hard Quantitative Variables*

[Average Assets]: In \$ million. Mean exposure on annual basis that the firm has with the bank.

[Foreign Ownership]: Dummy variable that assigns a value of 1 if the ownership of the firm is foreign as compared to top tier local companies.

[Global Relationship Banking Company]: Dummy variable that assigns a value of 1 if the firm belongs to a Global Relationship Banking Company.

[Length of Relationship]: Measured in months. This variable assigns a value of 1 if the length of the relationship of the underlying firm is on the top 50% of the distribution of the sampled firms.

[Years in Industry]: Measured in months. This variable assigns a value of 1 if years in industry of the underlying firm is on the top 50% of the distribution of the sampled firms.

[Maturity > 3 Years - Covenants]: Dummy variable that assigns a value of 1 if the credit approval under analysis has a long-term maturity special transaction approved. Covenants for transactions above or equal to 3 years are generally non-standard, including both quantitative and qualitative measures the RMs needs to follow-up and check on their status.

[Investment Grade Rating Firm]: Credit Ratings are assigned to customers on a scale of 1 to 10, and are based on a debt rating model from the financial statements of the firm. Such ratings are defined in terms of *loss norms*. The best rating is a 1, which generally corresponds to a “AAA” investment grade on the Standard’s & Poor rating scale. A risk rating of 10 generally corresponds to Standard & Poor’s “D” rating and indicates that a customer or facility is “doubtful” or a “loss”. Ratings of 1 to 4 are regarded as investment-grade ratings, while 5 to 10 are non-investment grade ratings. This dummy variable assigns a value of 1 if the firm has an obligor risk rating of 4 or less.

[>50% Clean Exposure]: Dummy variable that assigns a value of 1 if more than 50% of the credit exposure of the firm with the bank does not present any collateral.

I used financial statements of each company to create some measures covering the operating, liquidity and debt position of the firm. All financial variables are compared to the distribution

of the sampled firms. Each of them corresponds to a dummy variable that assigns a value of 1 if the firm is on the top 50% of the distribution for the underlying characteristic of interest. The definitions of these variables are:

[Current Ratio]: *Liquidity Measure.* Ratio of Current Assets over Current Liabilities.

[Leverage]: *Debt Measure.* Ratio of Total Liabilities over Net Worth and Minority Interest.

[Debt-to-Equity]: *Debt Measure.* Ratio of Short and Long Term Debt over opening Net Worth.

[Return-on-Assets]: *Operating Measure.* ROA is the ratio of Net Income over opening Total Assets.

[Return-on-Equity]: *Operating Measure.* ROE is the ratio of Net Income over opening Net Worth.

[Sales-to-Assets]: *Operating Measure.* Ratio of Net Sales over Total Assets.

[EBITDA-to-Sales]: *Operating Measure.* Ratio of EBITDA (Earning Before Income Tax and Depreciation) to Sales. At year t , I also used as the one-year forecast (EBITDA-to-Sales) in $t + 1$.

2. *Soft Measures - Business Risk Assessment Variables*

These soft measures represent averages of a set of specific questions and topics that evaluate each particular field. A value of 1 is assigned to the field if the firm is in the top 50% of the distribution on that category in the year prior to the change, 1999. Each topic is ranked between 1-7, where 1 corresponds to the best grade possible. Both fields and topics that are covered in each one are described as follows:

[Management Risk Assessment]: Includes Professionalism, Systems and Controls, Financial Disclosure and Ability to Act Decisively.

[Management Ability to Act Decisively]: Subset of the previous general field.

[Competitive Position Risk Assessment]: Includes Market Position, Product Line Diversity, Operating Cost Advantage, Technology Advantage, and Capability to Face External Risks.

[Key Success Factors]: Each industry faces different Key Success Factors to become a competitive player in the market and industry under consideration. Key Success Factors for each industry are crucial in identifying customers that offer an acceptable level of risk with a high potential return.

[Industry Risk Assessment]: Includes Trend in Output, Trend in Earnings, Cyclically (Fluctuations) and External Risks.

[Risk Management Policies]: Includes Leverage, Liquidity and Hedging Policies.

[Access to Capital Markets]: Separate field including the degree of access to local and international capital markets.

[Other Bank Relations]: Separate field analyzing other established bank relationships and the degree of commitment that exists in those bank relationships.

3. *Internal Bank Criteria Variables*

These variables correspond to “YES/NO” questions the account officer must answer. They generally cover the cover page of any credit facility approval. A value of 1 is assigned to the underlying characteristic if a “YES” answer is documented.

[Target Market Exception]: If the firm under analysis does not belong to an identified segment of the industry and customer base.

[Risk Acceptance Exceptions]: A set of characteristics used to define the type of risk the bank is willing to assume for each industry.

[Downgrade in Risk Rating]: Since last full credit review, the firm experienced 2 or more sub-grades downgrades.

[Significant Increase in Total Credit Facilities]: Subjective decision on the increase in total credit facilities.

[Major Risk Event at the Company]: Any risk event at the company that may put in jeopardy the firm-bank relation, including adverse changes in management.

[Significant Adverse Change in KSFs, Obligor Risks or Mitigant]: This variable captures any change in the critical success factors of the firm, risks or changes in the way-outs of the relation.

[Significant Adverse Change in Collateral/Support]: Includes changes in the collateral, support from shareholders and/or holding company and documentation risk. Documentation risk is the risk that the documentary evidence (contracts) of a transaction are incorrect or cannot be enforced.

A.4 Products and Revenue Measures

From the Financial Control Division of the bank I collected both lending and non-lending products revenue data for each firm for both years 1999 and 2001.

[Cross-Selling]: Continuous variable between 0 and 1. It is the ratio of Non-Lending Revenues over Total Revenues on an annual basis. Lending Products include Core Lending Finance, Trade Finance and Asset Based Finance. Non-Lending Products are classified in Trade Services, Asset and Security Trading, Capital Markets Underwriting, Cash Management Services (Local and International), Corporate Finance and Structured Finance, Derivatives, Foreign Exchange, Funding and Gapping, Investment Asset Management and Security Services (ADRs).

[Pricing Lending Product_{*i*}]: Is the ratio of annual net revenues from funds (including commissions and fees) over average assets on the *i* – *th* product used by the firm under consideration. The spread is calculated on the three portfolio products. An alternative measure also used in the analysis excludes the commissions and fees.

[EPA]: Earnings-per-assets is the ratio of all lending revenues over average assets on annual basis.

[TR/Assets]: The profitability index is the ratio of total revenues over average assets on annual basis.

[Number of Non-Lending Products]: Discrete variable between 0 and 10 including the whole aggregated array of non-lending products.

[NL Revenues/Bank Assets per Product_{*i*}]: Total non-lending revenues normalized by the total assets the bank has on each of its *i* lending products.

[NL Revenues/Total Bank Portfolio]: Total non-lending revenues normalized by the total portfolio of assets the bank has.

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Table I
Relationship Manager Level Analysis
 Difference-in-Difference Unconditional Analysis
 Selected Average Perceived Effort Measures – Senior Banker and Hierarchical Regime Switch

This table presents results from the difference-in-difference unconditional analysis before and after the organizational structure change took place at the aggregate level for the treated and control group. The variables reported are selected average perceived effort measures for both changes. Panel A reports the full delegation of authority case, or Introduction of Senior Banker, while Panel B reports the partial delegation Hierarchical Regime Switch. The average effort measures come from annual quality surveys performed independently by a private consulting company hired by the bank. Surveys take place between September and November of each year and the participating firms are randomly selected. Questions on the survey make specific reference to the firm-bank relationship, with special attention to the role played by the Relationship Manager in handling the account and the knowledge she has about the firm's financial needs, the attitude and speed of response to the firm's requirements and the and expertise of the RM, among other related issues. The measure Aggregate Average Performance of RM* is constructed using those perceived effort measures which specifically relate to the role of the RM in handling the account. The variable Total Number of Complaints is the total number of letters of complaints received by the bank from its clients about the relationship and the poor attention received from the relationship manager. These letters were manually collected and counted from the Customer Service Division. The Control Group in both panels refers to the Business Unit which was not affected by the change in hierarchical structure. The Treated Group corresponds, separately, to each of the groups that were affected by the change.

A. Introduction of Senior Banker

Characteristics	Aggregate Average Performance of RM*			Time for Account & Ability to Communicate			Attitude and Responsibility of the RM towards the Account			Knowledge of the Relationship and Firm's needs			Knowledge and Experience of RM in providing Solutions			Speed of RM Response to Requests			Total Number of Complaints		
	1999	2001	Difference	1999	2001	Difference	1999	2001	Difference	1999	2001	Difference	1999	2001	Difference	1999	2001	Difference	1999	2001	Difference
By Senior Banker																					
Control Group	5.8351	5.7224	-0.1127	5.7279	5.6224	-0.1055	6.1333	5.9607	-0.1726	5.6438	5.5839	-0.0599	5.7717	5.2859	-0.4858	5.8673	5.6029	-0.2644	3.2	5.0	1.8
Treated Group	6.1641	6.3294	0.1653	6.0939	6.4495	0.3556	6.3426	6.3525	0.0099	6.0559	6.1863	0.1304	5.9686	5.7833	-0.1853	6.1161	6.0568	-0.0593	1.5	0.8	-0.7
Dif-in-Dif	0.3290	0.6070	0.2780	0.3660	0.8271	0.4611	0.2093	0.3918	0.1825	0.4121	0.6024	0.1903	0.1969	0.4974	0.3005	0.2488	0.4539	0.2051	-1.7	-4.2	-2.5
Percentage Change			3.97%			6.59%			2.61%			2.72%			4.29%			2.93%			

B. Hierarchical Regime Switch

Characteristics	Aggregate Average Performance of RM*			Time for Account & Ability to Communicate			Attitude and Responsibility of the RM towards the Account			Knowledge of the Relationship and Firm's needs			Knowledge and Experience of RM in providing Solutions			Speed of RM Response to Requests			Total Number of Complaints		
	1999	2001	Difference	1999	2001	Difference	1999	2001	Difference	1999	2001	Difference	1999	2001	Difference	1999	2001	Difference	1999	2001	Difference
By RM																					
Control Group	5.8351	5.7224	-0.1127	5.7279	5.6224	-0.1055	6.1333	5.9607	-0.1726	5.6438	5.5839	-0.0599	5.7717	5.2859	-0.4858	5.8673	5.6029	-0.2644	3.2	5.0	1.8
Treated Group	6.0265	6.2740	0.2475	5.9255	6.4464	0.5209	6.2147	6.4166	0.2019	5.9392	5.9648	0.0256	5.9479	5.9607	0.0128	5.6187	6.1994	0.5807	2.3	0.8	-1.5
Dif-in-Dif	0.1914	0.5516	0.3602	0.1976	0.8240	0.6264	0.0814	0.4559	0.3745	0.2954	0.3809	0.0855	0.1762	0.6748	0.4986	-0.2486	0.5965	0.8451	-1.0	-4.3	-3.3
Percentage Change			5.15%			8.95%			5.35%			1.22%			7.12%			12.07%			

Table II
Relationship Manager Level Analysis
 Selection, Comparability of Samples and Validity of Control Group
 Descriptive Statistics

This table analyses the comparability of samples and the validity of the control group at the RM aggregate level data. Panel A -Selection and Comparability of Samples - compares the means of selected statistics across the treated samples of interest – Senior Bankers and Relationship Managers – for each year. This panel evaluates possible selection issues in terms of the individuals who were promoted to Senior Bankers as well as selection of individuals assigned to different team sizes in 1999. Panel B tests for the validity of the Control Group. It compares the means of selected statistics for each treated sample of interest to the Control Group, in each year, to evaluate the adequacy of it. The Control Group is the Global Relationship Banking Unit (GRB). In Panel A for 1999, SBs stands for those individuals that became SBs in 2001. Thus in 1999, SBs is a subset of the RMs group. The same occurs in Panel B for 1999. In the Team Assignment Case of 1999 and in 2001 all groups are mutually exclusive. The variable Cross-Border Risk Approval accounts for the share of the total loan portfolio that each RM handles that is approved outside the local branch of the bank. The variables % of Portfolio Type I, II and III represent the internal bank credit classification system: current, issues raised on the client and substandard, respectively. In Panel A: *, ** and *** denote significant differences from the sample of all RMs in each year at the 10, 5 and 1% levels respectively using a Mann-Whitney test for equality of distributions. In Panel B: *, ** and *** denote significant differences from the Control Group sample in each year at the 10, 5 and 1% levels respectively using a Mann-Whitney test for the equality of distributions.

Panel A - Selection and Comparability of Samples

RM Level Variables	Introduction of Senior Bankers				Team Size Assignment	
	1999		2001		1999	
	SBs	RMs	SBs	RMs	RMs	Single RM
Age	34.6***	31.9	36.6***	33.0	31.9	32.8
Experience in the Bank	7.29**	6.21	9.29**	7.3	6.21	7.61*
Number of Accounts	24.1	24.2	20.9	19.9	24.2	27.5
Cross-Border Risk Approval	0.29	0.36	0.25	0.34	0.36	0.20**
% Portfolio Type I	0.85	0.91	0.76	0.79	0.91	0.84
% Portfolio Type II	0.14	0.08	0.18	0.18	0.08	0.14*
% Portfolio Type III	0.01	0.01	0.03	0.11	0.01	0.02*
Number of Observations	9	21	9	10	21	7

Panel B - Validity of Control - Tests of Equality of Samples

RM Level Variables	1999			2001		
	SBs	RMs	Control	SBs	RMs	Control
Age	34.6*	31.9	30.5	36.6**	33.0	32.2
Experience in the Bank	7.29	6.21	6.58	9.29	7.30	7.65
Number of Accounts	24.1	24.2	27.0	20.9	19.9	24.0
Cross-Border Risk Approval	0.29**	0.36*	0.57	0.25**	0.34*	0.47
% Portfolio Type I	0.85	0.91	0.95	0.76	0.79	0.94
% Portfolio Type II	0.14	0.08	0.04	0.18	0.18	0.05
% Portfolio Type III	0.01	0.01	0.01	0.03	0.11	0.02
Number of Observations	9	21	5	9	10	5

Notes: Though not reported due to a Confidentiality Agreement, Total Portfolio Outstanding for each relationship manager was computed. For both Panels A and B, Total Portfolio is statistically different at 5% significant level for the Senior Bankers treated group.

Table III
Relationship Manager Level Analysis
 Before-After Estimation Senior Bankers Case – Robustness Check using Letters of Complaints

$$e_{it} = \alpha + \gamma_i + \theta \mathbf{x}_{it} + \delta \text{Post}_t + \varepsilon_{it}$$

This table presents results from OLS regressions for the before-after estimation for the Senior Bankers Case, for the change in hierarchical structure that took place between 1999 and 2001. The unit of observation is the relationship manager (RM). The dependent variable is the average perceived effort of the RM across all surveyed firms denoted by Effort_{it}^A . Except for Column (2), where I report the aggregate effort measure, columns (1) to (6) report the effort measure that relates to the time the RM devotes to the account and the ability to communicate and access her. Column (7) uses the number of Letters of Complaints received by the Customer Service Division as a dependent variable. Columns (8) use a subset of these letters of complaints. The dummy variable Time Complaint takes a value of 1 if a Letter of Complaint refers to impossibility of contacting the RM in any way. Personal Controls include Age, Experience in the bank and Gender. The variable Size of Unit accounts for possible peer pressure effects and free-riding issues within the business units. Although not reported in this Table, Total Portfolio Outstanding by each RM was also used instead of Number of Accounts in the regressions. The variable % of Cross-Border Approval accounts for the share of the total loan portfolio that each RM handles that is approved outside the local branch of the bank. The variables % of Portfolio Type I, II and III represent the internal bank credit classification system: current, issues raised on the client and substandard, respectively. Single Hierarchy 1999 is a dummy variable that takes the value of 1 if the account officer under analysis was working under a 1-1 hierarchical relationship in 1999. Robust standard errors clustered at the Individual SB level are reported in parenthesis. *, ** and *** denote significance at the 10, 5 and 1% level respectively.

Dependent Variable	OLS Estimates						Probit	
	(1)	(2)	(3)	(4)	(5)	(6) ¹	(8)	
	$\text{Effort}_{\text{SB}}^A$	Aggregate _{SB}	$\text{Effort}_{\text{SB}}^A$	$\text{Effort}_{\text{SB}}^A$	$\text{Effort}_{\text{SB}}^A$	$\text{Effort}_{\text{SB}}^A$	Complaints	Time
Post _t	0.6059** (0.3057)	0.4978** (0.2837)	0.6255** (0.2287)	0.5888*** (0.1538)	0.4933** (0.2072)	0.4830* (0.2458)	-2.0268*** (0.5141)	-2.6206* (1.4731)
Size of Unit				0.1187 (0.1326)	-0.0470 (0.1097)	-0.0682 (0.1375)	0.3284** (0.1435)	0.5467* (0.3545)
Number of Accounts				-0.0100 (0.0071)	-0.0025 (0.0033)	-0.0018 (0.0030)	0.0388** (0.0162)	0.0860* (0.0521)
Single Hierarchy 1999	0.5676** (0.2608)	0.6445** (0.2677)	0.6163** (0.2157)	0.9173*** (0.2187)			-1.3021 (1.0411)	-2.3458* (1.6734)
% Cross-Border Approval					-1.2373*** (0.2823)	-1.1615** (0.3446)		
Personal Controls				Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects			Yes					
Pre-Change Mean for Senior Bankers	5.7977*** (0.2534)	5.8174*** (0.2410)	5.3744*** (0.2895)	5.9210*** (0.8203)	6.9863*** (0.6433)	6.6094*** (0.4006)	2.9349 (1.7521)	1.4780 (1.0712)
R-Squared	0.14	0.15	0.28	0.41	0.73	0.75	0.69	0.50
Number Observations	18	18	18	18	18	18	17	17

Notes:

1. Regression includes controls for the share of the total loan portfolio held by the RM in Type I, II and III classifications. Coefficients on these variables are not reported. Results show that Type I Portfolio Classification is negative but not statistically significant and Type II is positive and statistically significant at 10%. Both classifications are expressed with respect to Type III Portfolio Classifications. The coefficients of both Type I and II are -0.0659 and 1.6975 respectively.

Table IV
Relationship Manager Level Analysis
 Before-After Estimation RMs Regime Switch

$$e_{it} = \alpha + \gamma_i + \theta \mathbf{x}_{it} + \delta \text{Post}_t + \varepsilon_{it}$$

This table presents results from OLS and PROBIT regressions aimed at testing centralization against decentralization of authority for the RMs Regime Switch. Using a before-after estimation strategy, I test for the role of initiative in the new team assignment. The unit of observation is the relationship manager (RM). Except for Columns (5) and (6), the dependent variable is the average perceived effort of the RM across all surveyed firms. The effort measure used as dependent variable is the time the RM spends and devotes to the relationship. In Columns (5) and (6) the dependent variable is the Number of Letters of Complaints and the Time Complaint dummy respectively. In this case of the Hierarchical Regime Switch, Size of Unit is not used as a control variable since I am testing for differential effort across the number of members in different business units. Personal Controls include Age, Experience in the Bank and Gender. Industry fixed effects in this particular case are not added since they are correlated with the number of team members per business unit. Robust standard errors clustered at the Individual RM level are reported in parenthesis. *, ** and *** denote significance at the 10, 5 and 1% level respectively.

Dependent Variable	Before-After RMs Regime Switch					
	OLS Estimates				Probit	
	(1)	(2)	(3)	(4) ¹	(5)	(6)
	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Complaints	Time
Post _t	0.4074* (0.2060)	0.4019* (0.2070)	0.4171** (0.1988)	0.4958* (0.2802)	-1.8432*** (0.5339)	-1.6251* (0.9461)
Single Hierarchy 1999				0.2798 (0.4236)	-1.8470** (0.6888)	-0.6371 (1.0253)
Number of Accounts		-0.0041 (0.0062)	-0.0011 (0.0049)	-0.0019 (0.0043)	0.0081 (0.0109)	0.0237 (0.0227)
% Cross-Border Approval			-0.6311** (0.3083)	-0.6985** (0.3524)		
Personal Controls		Yes	Yes	Yes	Yes	Yes
Pre-Change Mean for Single RMs	6.033*** (0.1380)	6.0976*** (0.8661)	6.1322*** (0.7514)	5.9566*** (0.6316)	0.4620 (1.2656)	-0.6221 (2.6322)
R-Squared	0.14	0.20	0.38	0.39	0.79	0.37
Number Observations	31	31	31	31	22	22

Notes:

1. Regression includes controls for the share of the total loan portfolio held by the RM in Type I, II and III classifications. Both classifications are expressed with respect to Type III Portfolio Classifications. Coefficients on these variables are not reported. Results show that Type I Portfolio Classification is positive in both columns but not statistically significant in either of both. Type II is also positive and not significant. In both cases, the coefficient on Type II is higher than the one on Type I classification.

Table V
Relationship Manager Level Analysis
 Difference-in-Difference Estimation - Senior Bankers

$$e_{it} = \alpha + \gamma_i + \gamma_0 \text{Treated}_i + \delta \text{Post}_t + \beta(\text{Treated}_i * \text{Post}_t) + \theta \mathbf{x}_{it} + \varepsilon_{it}$$

This table presents results from OLS and PROBIT regressions for the difference-in-difference estimation of the Senior Bankers Case, for the change in the organizational structure that took place between 1999 and 2001. The unit of observation is the relationship manager (RM). Under all specifications, other environmental changes that may have taken place during the period are taken into account by the use of a control group. This control group is a Business Unit which did not change either its hierarchical structure changed or the definition of tasks within the unit. In Columns (1) to (6), the dependent variable is the average perceived effort measure. In Column (7) the dependent variable is the total annual number of complaints directed to each RM received by the Customer Service Division and in Column (8) the dependent variable is the Time Complaint dummy. Columns (1) to (7) exhibit OLS estimates while Column (8) exhibit PROBIT estimates. Personal Controls include Gender, Age and Experience in the bank. Bank RM Controls include Number of Accounts, Cross-Border Portfolio Approval and Size of Unit. Pre-existing differences for Senior Bankers is a dummy that assigns the value of 1 in both years to all individuals who became Senior Bankers in 2001. This variable captures the pre-existing differences related to the individuals who became Senior Bankers. If this group of individuals is a special group, this dummy tries to capture the “Promotion Selection” effect. Therefore, the interaction term captures the causal effect of the change. Robust standard errors clustered at the Individual SB level are reported in parenthesis. *, ** and *** denote significance at the 10, 5 and 1% level respectively.

Dependent Variable	OLS Estimates						Probit	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Complaints	Time
Treated _i *Post _t	0.3722** (0.1582)	0.4922*** (0.1626)	0.4671* (0.2511)	0.4595** (0.2222)	0.3942* (0.2301)	0.4813*** (0.2047)	-1.0694* (0.6131)	-1.1808* (0.6927)
Post _t	0.2044 (0.1792)	0.2289 (0.1863)	0.0981 (0.1990)	0.1468 (0.2034)	0.1447 (0.2078)	0.1513 (0.1976)	-0.3862 (0.9452)	-0.3686 (0.8230)
Single Hierarchy 1999				0.4163* (0.2332)	0.3407 (0.2423)	0.3497* (0.2067)	-0.5140 (1.1576)	-0.1904 (0.9402)
Personal Controls		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank RM Controls				Yes ¹	Yes ²	Yes ³	Yes ⁴	Yes
Industry Fixed Effects			Yes					
R-Squared	0.12	0.16	0.29	0.41	0.45	0.45	0.44	0.44
Number Observations	50	50	50	50	50	50	44	44
Pre-existing differences for SB - Treated _i	0.1644 (0.2572)	0.1167 (0.2249)	-0.2117 (0.2711)	-0.3293** (0.1531)	-0.3448** (0.1350)	-0.3540** (0.1416)	0.8386 (0.6022)	0.7941 (0.6222)

Notes:

1. Cross-Border Portfolio Approval is negative and statistically significant at 5%.
2. Regression also includes as control variables –not reported- Portfolio Type Classifications. Results show that Type I and II Portfolio Classification are negative and positive respectively, though not statistically significant. Both classifications are expressed with respect to Type III Portfolio Classifications. The coefficients of both Type I and II are -0.0729 and 0.4443 respectively.
3. Number of Accounts is replaced by Total Portfolio Outstanding while using as control variables Cross-Border Portfolio and Size of Unit. The control variables Cross-Border Portfolio and Total Portfolio Outstanding are negatively statistically significant at 5% and 10% respectively.
4. Size of Unit is positive and statistically significant at 5%.

Table VI
Relationship Manager Level Analysis
 Difference-in-Difference Estimation – RMs’ Regime Switch

$$e_{it} = \alpha + \gamma_i + \gamma_0 \text{Treated}_i + \delta \text{Post}_t + \beta(\text{Treated}_i * \text{Post}_t) + \theta \mathbf{x}_{it} + \varepsilon_{it}$$

This table presents results from OLS and PROBIT regressions for the difference-in-difference estimation for the RMs’ regime switch. The unit of observation is the relationship manager (RM). Environmental changes that may have taken place in the period under consideration are taken care of through the use of a control group. The control group is a Business Unit which did not change its hierarchical structure, the GRB Unit. Personal Controls include Gender, Age and Experience in the bank. Otherwise noted Bank RM Controls include Number of Accounts and Size of Unit. Pre-existing differences for RMs Switching Regimes is a dummy that assigns the value of 1 in both years to all individuals who switched regimes and tasks in 2001. This Treated variable captures the pre-existing differences associated with those individuals switching regimes. If this group constitutes a special set of officers, the dummy will capture such “Selection” effect. Therefore, the interaction term captures the causal effect of the change. Robust standard errors clustered at the Individual RM level are reported in parenthesis. *, ** and *** denote significance at the 10, 5 and 1% level respectively.

Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)
	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Complaints	Time
Treated _i *Post _t	0.6459* (0.3467)	0.6806* (0.2831)	0.6289* (0.3457)	0.7195** (0.3463)	-3.2483** (1.4156)	-2.3910** (1.0688)
Post _t	-0.1054 (0.2386)	-0.4154 (0.2853)	0.3074 (0.3049)	0.3295 (0.2790)	-0.0329 (0.9518)	-0.0071 (0.9257)
Single Hierarchy 1999	0.4654** (0.1899)		0.3253 (0.3078)	0.2866 (0.3924)	0.7137 (1.7652)	-1.3672 (1.7601)
Personal Controls			Yes	Yes	Yes	Yes
Bank RM Controls			Yes ¹	Yes ²	Yes	Yes
RM Fixed Effects		Yes				
R-Squared	0.35	0.75	0.32	0.38	0.53	0.33
Number Observations	32	32	32	32	32	32
Pre-existing differences for RMs- Treated _i	-0.1721 (0.2102)	0.0205 (0.4281)	-0.6743 (0.4169)	-0.6540 (0.4243)	2.4781 (1.6204)	1.4199 (1.2671)
Control Group	GRB	GRB	GRB	GRB	GRB	GRB

Notes:

1. Regression includes as control variables Size of Unit and Number of Accounts. Size of Unit is negative, -0.2451, and statistically significant at 10%.

2. Regression includes as controls variables Cross-Border Approval and Portfolio Type Classifications. Cross-Border Portfolio is negative and statistically significant at 10%. Results show that Portfolio Type Classifications I and II are positive and not statistically significant. The coefficient on Type II is higher than the one on Type I classification. Both classifications are expressed with respect to Type III Portfolio Classifications.

Table VII
Firm Level Analysis
Selection, Comparability of Samples and Validity of Control Group
Selected Descriptive Statistics

This table analyses the comparability of samples and the validity of the control group at the firm level for selected descriptive statistics. Panel A -Selection and Comparability of Samples - compares the means of selected statistics across the treated samples of interest – firms that (in 1999 will be) and firms that (in 2001 were) assigned to Senior Bankers- in order to evaluate possible selection issues in terms of firms that were assigned to those individuals promoted to Senior Bankers, as well as selection of firms assigned to relationship managers working under different team sizes in the year 1999. Panel B tests for the validity of the Control Group. It compares the means of selected statistics for each treated sample of interest to the Control Group, in each year, to evaluate the adequacy of the latter. Control Group are the firms handled by any RM in the Global Relationship Banking Unit (GRB). A complete description of the definition of variables can be found in the Data Appendix. In Panel A: *, ** and *** denote significant differences from the sample of firms assigned to RMs in each year at the 10, 5 and 1% levels respectively using a Mann-Whitney test for equality of distributions. In Panel B: *, ** and *** denote significant differences from the control group sample of firms in each year at the 10, 5 and 1% levels respectively using a Mann-Whitney test for equality of distributions.

Panel A - Selection and Comparability of Samples

Selected Firm Level Variables	Assigned to Senior Bankers				Assigned to RMs in Single	
	1999		2001		1999	
	SBs	RMs	SBs	RMs	Single RM	RMs
Foreign Ownership	0.49	0.44	0.51	0.40	0.18*	0.44
Average Assets (in \$ MM)	27.8	25.4	28.0	29.9	47.2**	25.4
Length of Relationship	0.58	0.58	0.68	0.66	0.50	0.58
Maturity > 3 Years - Covenants	0.21	0.25	0.07**	0.14	0.13*	0.25
Investment Grade Rating Firm	0.60	0.58	0.51	0.40	0.55	0.58
>50% Clean Exposure	0.75	0.71	0.91	0.84	0.73	0.71
Current Ratio	0.39	0.45	0.45	0.52	0.38*	0.45
Debt-to-Equity	0.45	0.49	0.39**	0.67	0.50	0.49

Panel B - Validity of Control - Tests of Equality of Samples

Selected Firm Level Variables	1999			2001		
	SBs	RMs	Control	SBs	RMs	Control
Foreign Ownership	0.49***	0.44***	0.85	0.51***	0.40***	0.94
Average Assets (in \$ MM)	27.8*	25.4*	19.1	28.0*	29.9*	19.4
Length of Relationship	0.58	0.58*	0.54	0.68*	0.66	0.58
Maturity > 3 Years - Covenants	0.21***	0.25***	0.05	0.07***	0.14***	0.00
Investment Grade Rating Firm	0.60	0.58	0.66	0.51	0.40**	0.65
>50% Clean Exposure	0.75	0.71	0.77	0.91	0.84*	0.95
Current Ratio	0.39**	0.45*	0.75	0.45	0.52	0.71
Debt-to-Equity	0.45	0.49	0.58	0.39	0.67	0.42

Table VIII
Firm Level Analysis
Difference-in-Difference Estimation - Senior Bankers

$$e_{it} = \alpha + \gamma_i + \gamma_0 \text{Treated}_i + \delta \text{Post}_t + \beta_1 (\text{Treated}_i * \text{Post}_t) + \beta_2 (Z_i * \text{Post}_t) + \beta_3 Z_i + \theta \mathbf{x}_{it} + \varepsilon_{it}$$

This table presents results from OLS regressions for the difference-in-difference estimation for the Senior Bankers Case where the unit of observation is the firm. Post_t is a dummy variable that takes the value of 1 after the hierarchical change in structure takes place. The variable Treated_i is a dummy variable that takes the value of 1 in both years for firms that were assigned to a Senior Banker after the change. The Treated variable captures the pre-existing differences associated to those firms assigned to Senior Bankers. If this group is a special set of firms, this dummy tries to capture the “Firm Selection” effect. Therefore, the interaction term captures the direct effect of the change in hierarchical structure. All regressions include Treated_i and Post_t as control variables not reported in the tables. In Columns (3) and (5), probability weights are used in order to compensate for the incomplete panel. Column (6) presents GLS estimations in order to take heteroskedasticity at the firm level into account. Variables that denote Pre-existing differences are divided in soft and hard information categories and denoted by Z_i . Such variables capture both qualitative and quantitative pre-existing differences in various fields for each firm. Management Risk, Industry Risk, Competitive Position Risk and Risk Management Policies represent averages of a set of specific questions that evaluate each field. A value of 1 is assigned to the particular field if the firm is in the top 50% distribution on that category in the year prior to the change. Sales-to-Assets, Debt-to-Equity and EBITDA-to-Sales also take a value of 1 if the firm is in the top 50% of the distribution in the year prior to the change. $(Z_i * \text{Post}_t)$ controls for these time varying changes due to initial pre-existing differences in the underlying characteristic of interest Z_i . Robust standard errors clustered at the firm level are reported in parenthesis except for Columns (1) and (6). Column (1) reports robust standard errors and in (6) GLS grouped standard errors are reported. Evidence of heteroscedasticity from a Lagrange Multiplier Test was found at 1% level when using as controls those on (4) and (5). *, ** and *** denote significance at the 10, 5 and 1% level respectively.

Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A
Treated _i *Post _t	0.3972** (0.2056)	0.3534* (0.2156)	0.5868* (0.3582)	0.3621* (0.2195)	0.5703* (0.3441)	0.6244*** (0.1901)	0.3279* (0.1944)	0.4163** (0.2081)
Maturity > 3 years - Covenants				0.3765* (0.2227)	0.4984** (0.2465)	0.2783** (0.1292)		
Investment Grade Rating Firm				-0.2508* (0.1497)	-0.3152* (0.1817)	-0.3322*** (0.0928)		
>50% Clean Exposure				-0.1813 (0.2267)	-0.0091 (0.2185)	-0.0221 (0.1060)		
Length of Relationship				0.2505* (0.1443)	0.2883* (0.1714)	0.1593* (0.0938)		
Pre-existing Differences Soft								
Management Risk _i *Post _t							0.4984* (0.2887)	
Industry Risk _i *Post _t							0.6742** (0.2683)	
Competitive Position Risk _i *Post _t							-0.3771 (0.2711)	
Risk Management Policies _i *Post _t							-0.2789 (0.2707)	
Access to Capital Markets							-0.3511** (0.1563)	
Pre-existing Differences Hard								
Sales-to-Assets _i *Post _t								0.4245 (0.2896)
Debt-to-Equity _i *Post _t								0.0425 (0.2937)
EBITDA-to-Sales _i *Post _t								0.6673** (0.3018)
ROE _i *Post _t								0.5803** (0.2746)
Industry Fixed Effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes
SB Fixed Effects			Yes		Yes	Yes		
Adjusted R -Squared /Chi-Squared	0.01	0.03	0.09	0.06	0.33	47.92	0.3	0.17
Number Observations	368	368	368	273	273	273	273	273

Control Group For all Columns RMs not promoted to Senior Bankers and those in GRB Unit.

Notes: Column (4), (5) and (6) also include Years in Industry and Ownership not reported on the table. Although statistically significant, the effect on perceived effort of such variables is close to 0.

Table IX
Firm Level Data Analysis

Difference-in-Difference Estimation – Differential Effort Impact RMs' Regime Switch

$$e_{it} = \alpha + \gamma_i + \gamma_0 \text{Treated}_i + \delta \text{Post}_t + \beta_1(\text{Treated}_i * \text{Post}_t) + \beta_2(Z_i * \text{Post}_t) + \theta \mathbf{x}_{it} + \varepsilon_{it}$$

This table presents results from OLS regressions for the difference-in-difference estimation for the RMs' regime switch. The unit of observation is the firm. All regressions include Treated_i and Post_t as control variables not reported in the table. Panel A reports results for the average impact of the change with no distinction between single or multiple hierarchies. Panel B reports the differential effort impact of the change by using two separate variables: (Single-Multiple*Post_t) and (Multiple-Multiple*Post_t). Single-Multiple*Post_t is a dummy variable that takes the value of 1 for those firms that were handled by RMs in a 1-1 relationship in 1999 and switched to 1-2 relationships in 2001, while Multiple-Multiple*Post_t takes the value of 1 for those firms handled by RMs in 1-2 relationships in both years. Robust standard errors clustered at the firm level are reported in parenthesis except in Columns (9), (10) and (11) where GLS grouped standard errors are reported. *, ** and *** denote significance at the 10, 5 and 1% level respectively.

Dependent Variable	PANEL A - Average Effect						PANEL B - Differential Effort Impact				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A	Effort _{RM} ^A
Treated _i *Post _t	0.5057** (0.2361)	0.6721* (0.4052)	0.5317** (0.2386)	0.4904** (0.2554)	0.6922*** (0.2805)	0.7869** (0.4316)					
Single-Multiple _i *Post _t							0.2826 (0.3581)	0.5832 (0.5351)	0.3685 (0.3702)	0.4131 (0.4457)	0.2791 (0.5844)
Multiple-Multiple _i *Post _t							0.7077*** (0.2408)	0.6969* (0.4159)	0.7878*** (0.2498)	0.6913*** (0.2528)	0.9095** (0.4649)
Single Relationship 1999			0.4729*** (0.1866)	0.5124*** (0.1893)	0.3242 (0.2209)				0.4981*** (0.1949)	0.2869 (0.2205)	
Maturity > 3 years - Covenants					0.3422** (0.1792)	0.3235* (0.1946)				0.3265* (0.1497)	0.2742* (0.1769)
Investment Grade Rating Firm					-0.2431* (0.1406)	-0.1879 (0.2001)				-0.2512* (0.1482)	-0.1878 (0.1991)
>50% Clean Exposure					-0.1235 (0.2446)	-0.1612 (0.2419)				-0.1222 (0.2371)	-0.1961 (0.2334)
Length of Relationship					0.2574* (0.1463)	0.1721 (0.2102)				0.2754* (0.1543)	0.1781 (0.2105)
RM Fixed Effects		Yes				Yes		Yes			Yes
Industry Fixed Effects				Yes	Yes	Yes					
R-Squared/Adjusted R-Squared	0.02	0.03	0.02	0.03	0.06	0.03	0.02	0.03	0.03	0.06	0.04
Number Observations	323	323	323	323	232	232	323	323	323	232	232

Notes:

In Columns (5), (6), (10) and (11) Years in Industry and Ownership are also included as control variables, although not reported in the table.

Table X
Firm Level Analysis
Monitoring and Heterogeneity Effects
Comparison of Specific Characteristics across firms assigned to Senior Bankers

This table presents a test of equality of samples to analyze if firms given to Senior Bankers after the change were sorted differently. It compares the means of selected statistics across firms assigned to Senior Bankers prior to the change and firms assigned to the whole sample of Relationship Managers prior to the change. Firm characteristics are represented by dummy variables. The underlying characteristic of a firm is assigned a value of 1 if it belongs to the top half of the distribution of all firms in that aspect. Exceptions are Average Assets, Return-on- Assets, Return-on-Equity and the Cross-Selling Ratio. No significant pre-existing differences were found across firms that would be given to Senior Bankers in 2001 prior to the change and those that would not, using a Mann-Whitney test for equality of distributions.

Selected Firm Level Variables	1999	
	SBs	RMs
Average Assets (in \$MM)	27.8	25.4
Competitive Position Risk Assessment	0.59	0.53
Management Risk Assessment	0.59	0.57
Industry Risk Assessment	0.59	0.55
Key Success Factors	0.21	0.20
Access to Capital Markets	0.42	0.36
Other Bank Relationships	0.42	0.36
Return-on-Assets (%)	0.03	0.03
Return-on-Equity (%)	0.08	0.08
Debt-to-Equity	0.45	0.47
Sales-to-Assets	0.36	0.41
EBITDA-to-Sales	0.54	0.55
Cross-Selling Ratio	0.42	0.41
Number of Observations	53	117

Table XI
Firm Level Analysis

Monitoring and Heterogeneity Effects - Are Differences in Firm Characteristics Driving the Results?

$$e_{it} = \alpha + \gamma_i + \gamma_0 \text{Treated}_i + \delta \text{Post}_t + \beta_1 (\text{Treated}_i * \text{Post}_t) + \beta_2 (Z_i * \text{Treated}_i * \text{Post}_t) + \beta_3 (Z_i * \text{Post}_t) + \beta_4 (Z_i * \text{Treated}_i) + \beta_5 Z_i + \varepsilon_{it}$$

This table presents results from OLS regressions to test for alternative explanations for the increase in effort other than the hierarchical structure change, in terms of pre-existing differences in variables that affect monitoring activities. Stories as Frequency of Interactions [Column (1)], Bargaining Strength [Columns (2) and (3)], Concavity [Columns (4) and (5)] and Internal Bank Criteria monitoring activities [Columns (6) to (9)] are tested. All regressions include Business Unit/Industry Fixed Effects, RM Fixed Effects and the underlying characteristic of interest Z_i , and interaction terms of the underlying characteristic of interest, Z_i with Post_t and Z_i with Treated_i . The former interaction term captures the effect of Z_i on monitoring after the change in hierarchical structure, while the later captures possible pre-existing differences in the set of firms given to SBs. The interaction terms of interest –reported in the tables- are $(Z_i * \text{Treated}_i * \text{Post}_t)$ and $(\text{Treated}_i * \text{Post}_t)$. The former captures the differential effect of the underlying characteristic of the firm after the change for the firms given to SBs while the later captures the direct effect of the organizational change. The underlying characteristics Z_i , for columns (1) to (5) is assigned a value of 1 if a firm was in the top half of the distribution for the characteristic under consideration in the year prior to the change. In Columns (6) to (9), the characteristic Z_i is a dummy variable that assigns a value of 1 if the answer to the underlying question of the Internal Bank Criteria is “yes” in 1999. Robust standard errors clustered at the firm level are reported in parenthesis, with *, **, *** to denote significance at the 10, 5 and 1% level respectively.

Dependent Variable	Frequency of Interactions	Bargaining Strength		Concavity		Internal Bank Criteria				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A	Effort _{SB} ^A
Treated _i *Post _t	0.5789* (0.3149)	0.5252* (0.2899)	0.3459 (0.2182)	0.8038** (0.2978)	0.5815 (0.4433)	0.2233 (0.2862)	0.3856* (0.2268)	0.4498* (0.2679)	0.4584* (0.2499)	0.4033* (0.2444)
Sales-to-assets _i *Treated _i *Post _t	0.2847 (0.4484)									
Debt-to-Equity _i *Treated _i *Post _t		0.7392* (0.4353)								
Other-Bank-Relations _i *Treated _i *Post _t			0.1931 (0.4698)							
ROE _i *Treated _i *Post _t				-0.6191* (0.3638)						
EBITDA-to-Sales _i *Treated _i *Post _t					-0.2230 (0.4319)					
Investment Grade Rating _i *Treated _i *Post _t						-0.2369 (0.4571)				
Significant Increase Facility _i *Treated _i *Post _t							0.5716** (0.2649)			0.5816* (0.3071)
Downgrade Risk Rating _i *Treated _i *Post _t								0.3621* (0.1913)		0.1911 (0.2802)
Collateral/Support Change _i *Treated _i *Post _t									1.2539*** (0.4649)	1.2250*** (0.4921)
Access to Capital Markets	-0.3000** (0.1563)	-0.3208** (0.1486)	-0.3307* (0.1804)	-0.3351** (0.1467)	-0.2999** (0.1449)	-0.2437* (0.1447)	-0.3238** (0.1561)	-0.3048* (0.1575)	-0.2938* (0.1538)	-0.2681* (0.1624)
Adjusted R-Squared	0.12	0.16	0.11	0.20	0.15	0.15	0.12	0.13	0.14	0.15
Number of Observations	273	273	273	273	273	273	273	264	264	264

Notes:

For the *Bargaining Strength*, I also used as underlying characteristic of the firm Net Worth. Results, not reported, suggest that the size of the firm do not play a role in monitoring activities. For the *Concavity* story Return on Assets -ROA_i- was also used as an underlying characteristic for the firm. Results, not reported in the table, are qualitative and significantly the same obtained for the ROE_i. For the *Concavity* story I used EBITDA of year 1999 –as reported in the table- and also one-year projected EBITDA according to the financial analysis of year 1999. Results, not reported, do not differ significantly.

Table XII
Cross-Selling Hypothesis
Effects on Loan Products Pricing

This table presents some results from Liberti [2002] on the cross-selling hypothesis for large business firms. Results suggest the existence of cross-selling on those products where the role of the relationship manager is most influential. The sample includes all firms from the Corporate Bank for a 3 year period from 1999 to 2001. Panel A shows OLS results on the effects of non-lending revenues on the pricing of lending products which are classified in: Core Lending (Working Capital Loans), Trade Finance and Asset Based Finance. Panel B shows PROBIT results for the disaggregated effect that each non-lending product has on the pricing of working capital loans and on the overall earnings-per-asset measure. All regressions include year fixed effects and firm fixed effects. In order to account for the incomplete panel of firms, each regression is probability weighted according to the number of times each firm appears in the sample. For Panel A the independent variables are defined as follows. NL Revenues/Bank Assets per Product is the ratio of total non-lending revenues over the total outstanding position that the bank has in the underlying lending product. NL Revenues/Total Bank Portfolio is the ratio of total non-lending revenues over the bank's total asset outstanding position independent of the product. The dependent variables Pricing of each lending product -Core Lending (CL), Trade Finance and Asset-Based Finance- are constructed as the ratio of net lending revenues from funds of each product over the average assets used by each firm per product. In Panel B, EPA is the Earnings-per-Asset defined as the ratio of total lending revenues over total average assets used by the firm independently of the product. All variables are on yearly basis. In Panel B each non-lending product is a dummy variable that is assigned a value of 1 if the firm has positive revenues on that product.

Panel A: Effects on the Pricing of Lending Products

Dependent Variable	(1)	(2)	(3)	(4)	(6)	(5)
	Pricing CL	Pricing CL	Pricing CL	Pricing Trade	Pricing Trade	Pricing ABF
Revenues Non-Lending Products	-6.79E-08** (2.93E-08)			5.49E-09 (4.16E-09)		
NL Revenues/Bank Assets per Product		-11.8483** (6.2658)			0.5288 (0.4512)	-2.0239 (3.1906)
NL Revenues/Total Bank Portfolio			-25.5495** (10.9494)			
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R-Squared	0.76	0.76	0.76	0.67	0.67	0.59
Number Observations	1352	1352	1352	539	539	839

Panel B: Effects of Non-Lending Products

Dependent Variable	(1)	(2)
	Pricing CL	EPA
Trade Service	-0.0180*** (0.0054)	-0.0129*** (0.0051)
Asset and Security Trading	0.0345 (0.3422)	0.0271 (0.0132)
Capital Markets - Underwriting	-0.0353** (0.0178)	-0.0208** (0.0096)
Cash Management	-0.0043 (0.0124)	-0.0082 (0.0106)
Corporate Finance - Structured Finance	-0.0165** (0.0075)	-0.0123** (0.0058)
Derivatives	-0.0047 (0.0074)	-0.0115 (0.0142)
Foreign Exchange	0.0081 (0.0079)	0.0123 (0.0080)
Funding and Gapping	0.0098 (0.0063)	0.0094 (0.0058)
Investment Asset Management	-0.0613** (0.0276)	-0.0570** (0.0268)
Security Services - ADRs	-0.0459*** (0.0096)	-0.0362*** (0.0086)
Year Fixed Effects	Yes	Yes
Firm Fixed Effects	Yes	Yes
Adjusted R-Squared	0.8	0.76
Number Observations	1352	1352

Table XIII
Firm Level Analysis

Role of Qualitative Information in Pricing Decisions – A test for Stein (2002)

$$Y_{it} = \alpha + \gamma_i + \gamma_0 \text{Treated}_i + \delta \text{Post}_t + \beta_1 (\text{Treated}_i * \text{Post}_t) + \beta_2 (Z_i * \text{Treated}_i * \text{Post}_t) + \beta_3 (Z_i * \text{Post}_t) + \beta_4 (Z_i * \text{Treated}_i) + \beta_5 Z_i + \varepsilon_{it}$$

This table presents results from OLS regressions to test for the role of soft relative to hard information in pricing decisions at the firm level. A test for Stein (2002) is performed in order to understand the role that full and partial delegation of authority has in the transmission of and reliance on soft information. The dependent variable is the ratio of (Annual Net Revenues from Funds + Fees/ Average Assets) where the assets used correspond to working capital loans (Core Lending Business) as opposed to other portfolio products (Asset Based Finance and Trade Finance). Using results from Liberti (2002) on the Cross-selling Hypothesis, the only product where relationship managers can have an influence on the pricing/spread are the working capital loans. This is the reason why I present only the results on the pricing of core lending products. Results are both qualitative and quantitative similar if I use as dependent variable (Annual Net Revenues from Funds/ Average Assets) without fees and commissions for committed credit facilities instead of the one reported. Panel A shows the results for the full delegation case of the Senior Bankers where reliance on soft is higher relative to hard information as compared to the case where transmission of information must take place. Panel B shows the RMs Hierarchical Regime Switch where transmission of soft information to the direct report is much difficult, thus hard information has a higher impact on pricing than soft. Regressions in Panel A include Business Unit/Industry Fixed Effects, Length of Relationship, the underlying characteristic of interest Z_i , and interaction terms of the underlying characteristic of interest, Z_i with Post_t and Z_i with Treated_i . The former interaction term captures the effect of Z_i on monitoring after the change in hierarchical structure, while the later captures possible pre-existing differences in the set of firms given to each treated group. Regressions in Panel B include the same control variables as in Panel A but no fixed effects. The interaction terms of interest (reported in the tables) are $(Z_i * \text{Treated}_i * \text{Post}_t)$ and $(\text{Treated}_i * \text{Post}_t)$. The former captures the differential effect of the underlying characteristic of the firm after the change for the firms given to the respective treated group while the later captures the direct effect of the hierarchical change. Management Risk, Industry Risk and Competitive Position Risk Assessments represent averages of a set of specific questions that evaluate each field. A value of 1 is assigned to the particular field if the firm is in the top 50% of the distribution on that category in the year prior to the change. EBITDA-to-Sales and ROE also take a value of 1 if the firm is in the top 50% of the distribution in the year prior to the change. Robust standard errors clustered at the firm level are reported in parenthesis *, **, *** to denote significance at the 10, 5 and 1% level respectively.

Dependent Variable	Panel A - Senior Bankers										Panel B - RMs Regime Switch	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Pricing CL _{SB}	Pricing CL _{SB}	Pricing CL _{SB}	Pricing CL _{SB}	Pricing CL _{SB}	Pricing CL _{SB}	Pricing CL _{SB}	Pricing CL _{SB}	Pricing CL _{SB}	Pricing CL _{SB}	Pricing CL _{RM}	Pricing CL _{RM}
Treated _i *Post _t	0.0147 (0.0140)	0.0195 (0.0143)	0.0236* (0.0141)	0.0371** (0.0197)	0.0191 (0.0166)	0.0132 (0.0165)	0.0238 (0.0166)	0.0165 (0.0157)	0.0301 (0.0184)	0.0218 (0.0188)	0.0302 (0.0342)	0.0258 (0.0316)
Management _i *Treated _i *Post _t	-0.0859** (0.0388)			-0.0621** (0.0255)			-0.0766* (0.0430)	-0.0801** (0.0371)	-0.0702* (0.0402)	-0.0840* (0.0436)	-0.0449 (0.0674)	-0.0403 (0.0571)
Industry _i *Treated _i *Post _t		-0.0444* (0.0253)		-0.0199 (0.0229)								
Competitive Position _i *Treated _i *Post _t			-0.0779** (0.0331)	-0.0593* (0.0354)								
EBITDA-to-sales _i *Treated _i *Post _t					-0.0256* (0.0141)		-0.0122 (0.0233)		-0.0162 (0.0233)		-0.9199* (0.0549)	
ROE _i *Treated _i *Post _t						-0.0269 (0.0214)		-0.0152 (0.0202)	-0.0219 (0.2000)			-0.0819* (0.0475)
Investment Grade _i *Treated _i *Post _t										-0.0117 (0.0226)		
Access to Capital Markets	-0.0278** (0.0135)	-0.0292** (0.0253)	-0.0297** (0.0119)	-0.0271* (0.0144)	-0.0305*** (0.0121)	-0.0368** (0.0121)	-0.0283** (0.0135)	-0.0322** (0.0130)	-0.0341*** (0.0141)	-0.0264** (0.0131)	-0.0475* (0.0253)	-0.0477** (0.0207)
Adjusted R-Squared	0.17	0.19	0.21	0.24	0.22	0.28	0.23	0.31	0.34	0.19	0.19	0.25
Number Observations	273	273	273	273	273	273	273	273	273	273	232	232

Note:

I used EBITDA of year 1999 –as reported in the table- and also one-year projected EBITDA according to the financial analysis of year 1999. Results, not reported, do not differ significantly.

Table XIV
Firm Level Analysis

Real Impact of the Change – The Effect on Cross-Selling and on Profitability of Bank's Financials

$$Y_{it} = \alpha + \gamma_i + \gamma_0 \text{Treated}_i + \delta \text{Post}_t + \beta(\text{Treated}_i * \text{Post}_t) + \theta \mathbf{x}_{it} + \varepsilon_{it}$$

This table presents results from OLS regressions to analyze the impact that delegation of authority has on the real side of the bank. By using the same difference-in-difference procedure, I test for the effect that both full and partial delegation have on the cross-selling ratio, a profitability index, earnings-per-asset and the number of non-lending products. All regressions include Treated_i and Post_t as control variables, not reported on the table. Firm controls include Maturity of Outstanding Position >3 Years, Investment Grade Rating Firm, 50% of Outstanding as Clean Exposure and Length of Relationship. The unit of observation is the firm. The definition of dependent variables is as follows. Cross-sell (X-Sell) stands for the cross-selling ratio defined as the ratio of Non-Lending Revenues over Total Revenues. The profitability index, TR/Assets, is the ratio of Total Revenues over Average Assets defined on an annual basis. Earning-per-assets (EPA) is the ratio of All Lending Revenues over Average Assets. Lending Products are the Portfolio Assets Products classified in Core Lending, Trade Finance and Asset Based Finance products. The Number of Non-Lending Products is defined between 1 and 10. Non-Lending Products are classified in Trade Services, Asset and Security Trading, Capital Markets Underwriting, Cash Management Services (Local and International), Corporate Finance and Structured Finance, Derivatives, Foreign Exchange, Funding and Gapping, Investment Asset Management and Security Services ADRs. Robust standard errors clustered at the firm level are reported in parenthesis, with *, **, *** to denote significance at the 10, 5 and 1% level respectively.

Panel A - Senior Bankers

Dependent Variable	(1) X-Sell	(2) log (X-Sell)	(3) log (X-Sell)	(4) EPA	(5) EPA	(6) TR/Assets	(7) TR/Assets	(8) Number NLP
Treated _i *Post _t	0.0958* (0.0509)	0.1625** (0.0775)	0.1361* (0.0777)	0.0271** (0.0121)	0.0269** (0.0113)	76.3392* (43.4429)	80.3735* (46.8325)	0.4653 (0.6004)
Firm Controls			Yes		Yes		Yes	
Industry Fixed Effects			Yes	Yes	Yes	Yes	Yes	Yes
R-Squared	0.08	0.12	0.31	0.34	0.34	0.22	0.43	0.27
Number Observations	368	368	273	368	273	368	273	368

Panel B - RMs Regime Switch

Dependent Variable	(1) X-Sell	(2) log (X-Sell)	(3) log (X-Sell)	(4) EPA	(5) EPA	(6) TR/Assets	(7) TR/Assets	(8) Number NLP
Treated _i *Post _t	0.0542 (0.0753)	0.1494** (0.0612)	0.1652*** (0.0429)	0.0068 (0.0141)	0.0168** (0.0073)	55.1782 (46.7893)	73.4902** (34.6554)	0.3103 (0.5214)
Firm Controls			Yes		Yes		Yes	
R-Squared	0.01	0.05	0.11	0.03	0.14	0.03	0.12	0.27
Number Observations	323	323	232	323	232	323	232	323