Portfolio Approach and/or Firm Approach? Remarks on Futures of Strategic Bank Management

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Abstract

Continuing technological progress will both foster international economic integration and remove some of the traditional obstacles (such as time and distance) to global bank. A predictable prediction about bank management is that the focus has been shifting to noncooperative game theoretic models of strategic behavior. Currently, most theories of bank management are based on the Markowita-Tobin portfolio-theoretic approach, which omits several crucial aspects of bank behavior. This paper presents an alterative: a framework of strategic bank management that integrates the risk considerations of the portfolio-theoretic approach with the market conditions of the firm-theoretic approach. Our framework provides a conceptual approach for analyzing bank behavior in the liberalization environment.

Introduction

Three decades ago, the literature on the firm theory of banking was scare. As Freixas and Rochet (1997: xvii) demonstrated, the Arrow-Debreu general equilibrium model (the standard reference for Microeconomics at that time) was not able to explain the role of banks in the economy. There was a time, not too long ago, when the above argument enriched with literature seemed simple, at least to some, such as Hagen (1976). Then came liberalization, technological progress, and other tribulations, and the argument involved seemed not to be so simple after all. Banks respond in kind with more complicated modes of behavior; besides their risk management, they "produce" new products, "price" products and risks, "place" market channels, and "promote" products under deregulatory policies in the rapidly changing financial environment. Applying Rodrik (2000), we argue that continuing technological progress will both foster international economic integration and remove some of the traditional obstacles (such as time and distance) to global bank.[1]

Two divergent approaches have been employed in the literature to address the behavioral modes of banks.

First, risks have always been of major interest for banks. Asset-liability management and portfolio management cover all techniques required to measure, monitor, and control financial risks. Most of the literatures have adopted the Markowitz-Tobin portfolio theory as their analytical apparatus to explore liquidity and risk management in banking. The principal advantage of this approach is the explicit treatment of uncertainty, which has long played a prominent role in discussions of banking behavior. Klein (1970, 1971) was among the first to question the applicability of the portfolio-theoretic approach to banking behavior. Sealey and Lindley (1977) indicated that the inadequacy of this approach stems from the total omission of production and cost constraints under which banking firms operate, and thus the role of these constraints in determining the equilibrium output mix and the scale size of the banking firm.[2] Sealey (1980) further pointed out that two crucial factors in the portfolio-theoretic approach are ignored. These are (i) it is assumed that asset and deposit markets are perfectly competitive so that quantity-setting is the relevant behavioral mode in both market, and (ii) the approach ignores the resource cost incurred in the bank operations. Allen (2000) made a prediction about the future development of firm theory. The focus of the theory has been shifting to non-cooperative game theoretic models of strategic behavior. Thus, we argue that it is insufficient for a bank to use the portfolio-theoretic approach to efficiently and effectively manage its liquidity and risk.

Second, the assumption of perfect competition is not applicable to loan and deposit markets such markets are virtually always highly concentrated where banks set face random loan and deposit quantities, and where there are important barriers to entry. Authors have adopted the structure-conduct-performance (S-C-P) theory, namely the firm-theoretic approach in this paper, as their analytical apparatus to explore bank management. The fundamental advantage of this approach is the explicit treatment of S-C-P features; however, some important specificities of bank risk management are treated as an exogenous factor or simply ignored, such as Sealey (1980), and Wong (1997).

The S-C-P paradigm of resources and capabilities are seldom specific to bank risk management. Why is this an important issue? Consider two crucial related features. First, the feature of banking firm theory will emphasize strategic management, which is often thought of as taking banking position. Second, an important feature is the ability to manage strategic changes in the rapidly changing financial environment.

In light of pervious work, this paper focuses on the relative emphasis that strategic bank management places on the portfolio-theoretic approach and on the firm-theoretic approach. The two approaches are not viewed as mutually exclusive, but as an element of strategic behavior that integrates the risk considerations of the portfolio-theoretic approach with market conditions and cost considerations of the firm-theoretic of approach. The purpose paper is to present a framework of strategic bank management within the integration of those two approaches. This framework allows us to visualize several limitations on the portfolio-theoretic approach to strategic bank management even though banks are fundamentally in the business of risk and change management. Thus, the framework can be used to provide an alternative management technique for managing changes concerning strategic bank choices.

The paper is organized as follows. First, we ask and answer, what is the role of firm theory in the strategic bank management? Second, focusing on the changing financial environment provides us with insight into the portfolio-theoretic firm-theoretic approach needed to position a bank in the future. Third, a framework of strategic bank management is presented to address an importance of Allen's prediction about the future development of banking firm theory. The last section contains the conclusion.

What Is a Bank?

Economists and financiers have studied bank at length. Banking operations may be varied and complex, but a simple, operational definition of a bank is available; as Freixas and Rochet (1977: 1) stated, "a bank is an institution whose current operations consist in granting loans and receiving deposits form the public." Three key words of the definition is crucial and explained in the following:

i) The word "current" is crucial because most banks occasionally lend money to their customers and borrow money from their suppliers. This word describes the asymmetric liquidity out that banks finance illiquid assets (lending money) with liquid liabilities (borrowing money). A major result from the word "current" is that the financing of illiquid loans with liquid deposits is a service provided by banks in an environment where random shocks perturb preferences for the timing of consumption.

ii) The words "granting loans and receiving deposits" are crucial because the combination of lending and borrowing is typical of commercial banks. What are the principal sources and uses of funds at commercial banks? A common answer is that banks finance a significant fraction of their loans uses through the deposits sources of the public. Kashyap, Rajan, and Stein (2002) demonstrated that since banks often lend via commitments, their lending and deposit-taking may be two manifestations of primitive function: the provision of liquidity on demand. Their demonstration emphasizes banks as liquidity provides that there is a real synergy (combination mentioned previously) between lending and deposit-taking. Gorton and Pennacchi (1992), however, argue that regulation (for example, deposit insurance) has encouraged an artificial gluing together of granting loans lending and receiving deposits deposit-taking when bank attempt to maximize the value of the insurance put option by engaging in risk lending. It is naturally recognized that a "narrow banking" proposal of asset liquidity and liability, which effectively calls for the breaking up of banks into separate lending and deposit-taking operations that assemble finance companies and mutual funds, respectively.

iii) The word "public" is crucial because banks provide unique services (liquidity and means of payment) to the general public. Banks provide payments service, financial intermediation, and other financial services in anticipation of earning profit from those in activities. Along with other profit-seeking business, their principal goal is usually to maximize the market value of the equity of the common stockholders.[3] Since banks provide financial services to the general public, the bank regulation agencies periodically evaluate the liquidity position of the banks, the adequacy of capital base it has available to offset losses, the quality of its management, and other dimensions of the bank that been on the risk of default and thereby on the riskiness of the securities offered to the public by these financial institutions. These are referred to as safety and soundness examinations.

The three previous keywords of "current", "granting loans and receiving deposits", and "public" are commonly related to liquidity since banks are in the business of lending and borrowing money. Mercer (1992) showed that earnings form the margin, or spread, between interest rates on assets and interest rates typically account for 80 percent or more of bank profits. This paper will further adopt an alternative perspective of financial intermediaries to explore the question: what is a bank?

As Freixas and Rochet (1997: 15) stated, a financial intermediary is defined as "an economic agent who specializes in the activities of buying and selling financial contracts and securities." This is analogous to the notion of intermediary (or retailer) in the firm theory as an agent who buys certain goods or services producers and sellers them to final consumers. Roughly speaking, banks can be recognized as retailers of financial securities: they buy the securities issued by borrowers, for example, they grant loans, and they sell them to lenders, for example, they collect deposits. Even though banks can be viewed as retailers, their activities are much more complex, for at least three reason:

i) Banks generally deal with financial contracts, mainly loans and deposits, which cannot be easily resold (marketed), as opposed to financial securities (stocks and bonds), which are anonymous (in the sense that the identity of their holder is not irrelevant) and thus easily marketable. Thus, banks typically must hold these contracts in their balance sheets until the contracts expire. Accordingly, banks face their balance-sheet constraint when they make decisions.[4]

ii) The characteristics of the financial contracts issued by firms (borrower) are usually different from those of the contracts derived by investors (depositors). According to Sealey, this difference implies that banks frequently encounter situations where loan decisions are made in the presence of fixed deposit decisions, or the behavioral mode of operating deposits is investigated when loan decisions are fixed.

iii) As mentioned in ii), there exists asymmetric information between buyers and sellers from the viewpoint of banking firm. Banking industry is a highly regulated and leveraged industry, which is in general different from productive industries. Thus, that public regulation is justified by market failures from that asymmetric information deserves closer scrutiny. As pointed out by Kareken (1986), the "official" justification for banking regulation is the necessity of providing a "safety net" for banks to protect depositors from the risk of failure of their bank. Clearly, this is closely related to the justification of asymmetric information problems.

The operational definition and the agent definition of a bank mentioned previously are not mutually exclusive and are closely related to the portfolio-theoretic approach and the firm-theoretic approach. For example, the word "current" in the operation definition focuses on an importance of financing illiquid loans with liquid deposits. We may use the portfolio-theoretic approach to explore the illiquid-liquid problems and the firm-theoretic approach to discuss the features of loan-deposit products. Thus, the concept of "financial contracts" in the agent definition emphasizes not only on the portfolio-theoretic approach to risk management but also on the firm-theoretic approach to buying/selling strategic management. In practice, according to Finn and Frederick (1992), bank management a liquidity management is done though "cost of goods sold" approach in which deposits are the "material" and loan are the "work in process". In light of previous discussion, a much more comprehensive definition of bank must integrate the risk consideration of the portfolio-theoretic approach with the market conditions, cost considerations, and rate-setting behavioral modes of the firm-theoretic approach.

Changing Financial Environment

The past decade has seen a global trend of internationalization based on the assumption that more trade will result in more wealth, and that the globalization of the economics will bring further economic efficiency. Under the assumption, all markets are ideally open in such a way that products and services are not restricted to markets too small for economic viability. The liberalization of trade and the globalization of the economies also imply a large scale of mobility for capital funds. In the sense of economic efficiency, it is preferable to allow investment and lending to find their most productive utilization, and that implies a reduction in barriers to the free circulation of funds. Funds themselves cannot find productive outlays unless fund providers are given the right to explore distant markets, and the liberalization of financial systems is naturally required. For the time being, financial environment is continuing to evolve at a rapid pace, bringing new opportunity and new competitive challenges to the banking industry. It is essential for a bank to explore some of the forces behind the need to modernize the financial system in order to utilize its strengths and market opportunities and overcome its weaknesses and industry threats.

As Hoening (1997) points out, a crucial factor promoting change in bank markets worldwide is new technology, what is dramatically reducing information gathering, processing, and transmission costs.[5] Lower information cost from new technology and fewer production barriers from internationalization have increased competition not only within the banking industry but also across different types of financial institutions. Three stages about increasing competition in the past decades are briefly described as follows.

i) Initially, banks faces greater competition on the liability side of their balance sheets from money market mutual funds, brokered deposits, cash management accounts, and other financial instruments. This growing diversity of liability services has caused bank to use, for example, product differentiation as a way of distinguishing themselves from competitors.

ii) More recently, similar developments have occurred on the asset side of the balance sheet, with banks experiencing competition form commercial paper, asset securitization, and nationwide credit card solicitations. In the past, banks were uniquely qualifies to make, monitor, and collect both standardized and commercial loans. In the present, however, other types of lenders such as credit unions, insurance companies, and commercial financial companies have encroached on the bank's traditional markets and they are gaining market share. Fraser, Gap, and Kolari (1995: 536) pointed out that to offset lower profit margins of lending businesses in a competitive environment, banks may shift some of their loan portfolios to higher yielding and higher risk commercial real estate loans, and they made loans to lesser developed counties. However, the higher risks may not result in higher returns. These shifting operations in lending experiences and a deep recession in the early 1990s were important and traditional lessons in the trade-off between risk and expected returns.

iii) Now, financial competition has extended to payments services, where banks once held a virtual monopoly. The most serious threat to the banks' payments franchise appears to be coming from electronic money and electronic payments services. Economic Intuition (2000: 18) reports that success in e-commerce, in particular e-finance, requires a dual presence in both the virtual and real world. So-called "clicks-and mortar" banks are now believed to be the most likely to succeed in e-finance, driven not only by the need for sophisticated web sites, but also by the need for specialized branches.

Increased competition is expected to erode bank profits, forcing banks to innovate and expand into a broader array of potentially profitable services, including trading, risk management, and investment banking activities. Such services are treated as a major source of profits for banks and are becoming an important means of attracting and retaining customers. Again, we argue that risk management itself of a portfolio-theoretic approach is no longer sufficient to explore the role of banks in the rapidly changing financial environment.

In the article, "The Future of Microeconomic Theory," presented by Beth Allen (2000), two critical topics are predictable predictions about the futures of microeconomics: game theory and information. Further, Allen indicated that the focus of the game theory had shifted from cooperative to noncooperative game theoretic models of strategic behavior, and that many open questions had remained about both individual behavior and equilibrium in the presence of asymmetric information. We expect that the banking firm theory will follow this future direction since it is a part of firm theory in microeconomics. Thus, exploring the role of bank in the current and futures environment cannot be limited to the portfolio-theoretic approach. A key method is to incorporate portfolio-theoretic and firm-theoretic approach of strategic behavior in a full endogenous way into the banking firm theory. Despite the current and future trend of banking, if we allow banks the flexibility to adapt to financial change, it is essential that we explore the appropriate role of banks in strategic management. We further argue that a bank has a dual role, which can be recognized as an investor and can be treated as a firm as well.

Framework of a Strategic Bank Management

One of the factors on which the success or failure of a bank depends is the strategic management/strategic behavior, which is recognized as a possible future development of the banking firm theory. There are no single best approaches to strategic management. The paper in this section develops a framework of bank behavior, specific to managing strategic changes in the financial environment that integrates the portfolio-theoretic approach with the firm-theoretic approach. This integrated method is suggested here to the need for managers to have a conceptual framework within which to think about strategic and to be able to evaluate which strategy to use in which specific situation. The framework is basically composed of mission statement, assessment of internal/external environment, strategic choice, strategic level, action, and dynamic strategy shown in Figure1.

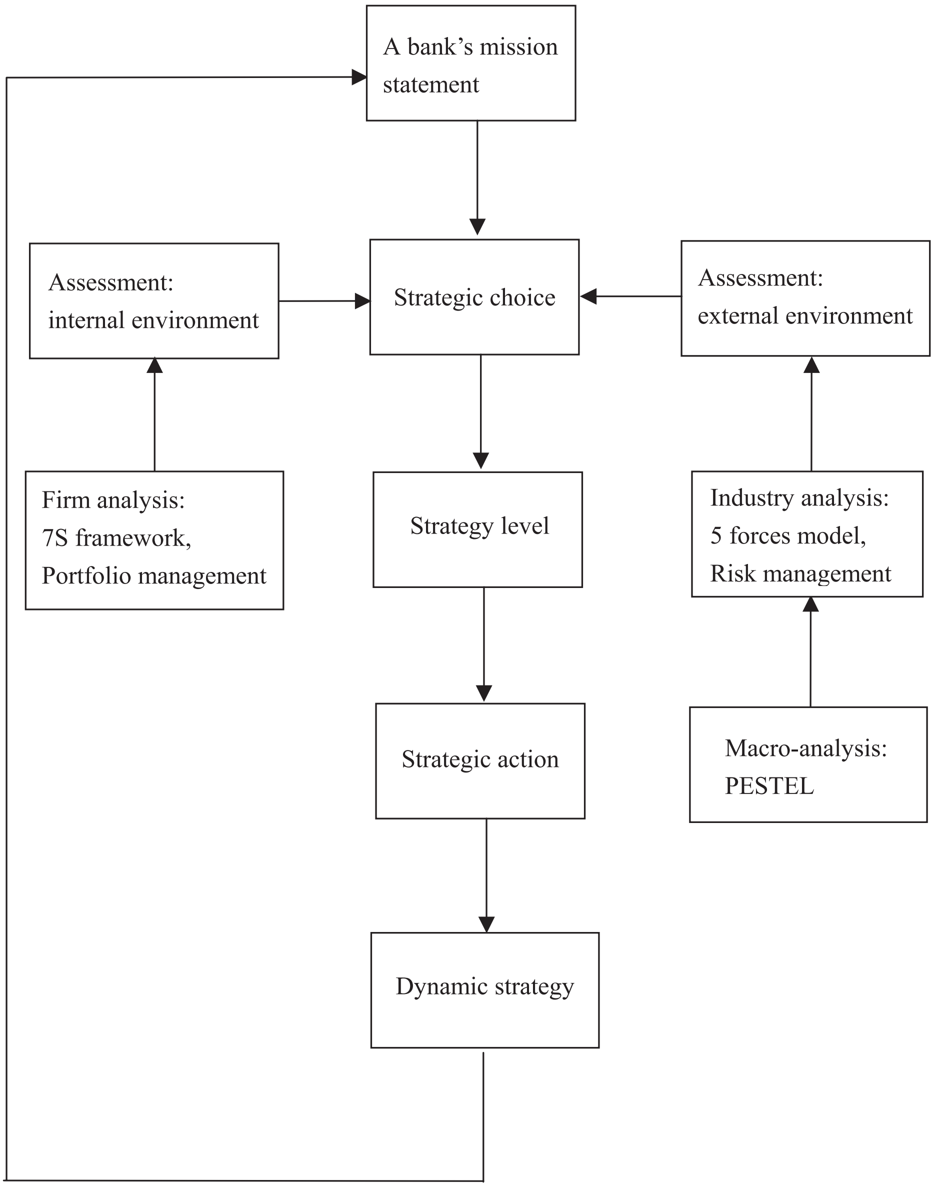

Figure 1: A Strategic Management Framework of a Bank

Mission Statement

Diamond (1984) treated a bank as a asset transformer because it provides depositors a non-risky claim which lending to risky entrepreneurs. By contrast, Allen (1990) recognized a bank as an agent/broker because it merely produces information for resale. Different roles a specific bank plays require different strategic planning/management. The mission statement of a specific bank, which is commonly ignored in the firm theory, can allow us to position the bank; accordingly, its strategic management.

According to Campbell and Young's (1991) mission statement model, a mission statement includes four basic elements. The first element of a mission statement is a firm's fundamental purpose: why the firm exists; the second one is its value: what the firm believe in; the third one is the behavior standards: the policies and behavior modes that underpin the distinctive competence and the value system; the last one is its strategy: the competitive position and distinctive competence. A strong mission exists when the four elements of mission link tightly together, resonating and reinforcing each other. Thus, a mission statement allows us to describe a firm's and to observe its rival's business strategy, management philosophy, and/or ethics.

As noted by Santomero (1984), the choice of an appropriate goal in modeling a bank's optimization problems a controversial issue. The role of portfolio-theoretic approach limits a bank to utilize its mission statement as a strategic tool and to observe its rival's competitive behavioral model in bank management. Zarruk and Madura (1992), for example, assume the bank's manager maximizes either his expected utility, or that of those who exercise control over the bank's decisions under the firm-theoretic approach. However, this assumption based on utility maximization is exogenous. Thus, the integrated method as mentioned previously is required to explore the role of a bank in order to formulate its strategic choice.

7S Framework

As indicated by Fraser, Gap, and Kolari (1995), internal factors are areas of strategic bank management that the officers and staff of the bank have under their immediate control. Waterman, Peters, and Philips (1980) presented a new view of organization. The central idea is that organizational effectiveness stems from the interaction of seven internal factors: strategy, structure, systems, style, staff, shared valued, and skills, namely "seven S framework".[6] More precisely, Pascale (1990) pointed out that the seven S frameworks is an efficient and effective structure for carrying out an internal audit of a banking firm. This framework emphasizes the integration of resources and distinctive of a firm. The basic idea of the multiplicity of three factors that influence a firm's ability to change and its proper mode of change. Thus, at its most powerful and complex, this seven Ss framework forces us to concentrate on interactions and fit. The portfolio-theoretic approach alone excludes the multiplicity in bank management. Obviously, the fundamental concept of the 7S framework is based on risk consideration of the portfolio-theoretic approach and market conditions of the firm-theoretic approach to bank internal management.

5 Forces Framework

The essence of strategy formulation is coping with competition. In a famous model constructed by Porter (1980), it is demonstrated that the state of competition in an industry depends on five basic forces, which are contending forces, threat of entry, powerful suppliers and buyers, substitute products, and jockeying for position. The collective strength of these forces generally determines the ultimate profit potential of an industry. Obviously, Porter's industry and competition analysis is based on the S-C-P paradigm. However, a bank manager needs to explore the sources of competitive advantage not only form firm-theoretic risk management but also from portfolio-theoretic management. Therefore, we argue that a portfolio-theoretic/firm-theoretic approach should be used to position a bank. That is, its capabilities provide the best defense against the competitor force, to influence a bank's forces through strategic moves, thereby improve the bank's position, and/or to anticipate shifts in the factors underlying the forces and responding to them, with hope of exploiting change by choosing a strategy appropriate for the new competitive balance before rivals recognize it.

PESTEL Framework

If risk-taking is a precondition of a growing economy, and if banks themselves exist because they are willing to take on and manage risk, what should be the strategy of bank management? To answer the question, most literature describes the principal legislative changes in banking and the effects of these changes on banking operations. For example, Bhattacharya and Thakor (1993) ask two related questions. First, how should deposit insurance be priced? Second, what are the private sector alternatives to regulatory deposit insurance? However, environmental changes are not only limited to legal aspect since "current" and "the public" as mentioned in Section II are keywords of bank management.

To describe the rapidly changing external financial environment, we suggest that a common framework that gives structured insight into what is happening in the external environment is known as "PESTEL" analysis. P stands for political factors, E for economic, S for social/demographic, T for technological, E for environment/ethical, and L for legal. Ginter and Duncan (1990) further demonstrated that the process of macro-environmental analysis consists of four interrelated activities. The process involve (i) scanning environments for warning signs and possible environmental changes that will affect the bank, (ii) monitoring environments for specific trends and patterns, (iii) forecasting future directions of environmental changes, and (iv) assessing current and future trends in terms of the effects each changes would have on the firm. To do this, we need to use an integrated method (the portfolio-theoretic/firm-theoretic approach in this paper) to capture scanning, monitoring, forecasting and assessing the current and future financial environment.

Strategic Choice/strategy Content/action

Banks need a balance between managing for shot-term profits and for long-term strategic position, for example, future profit. The evaluation of the balance is based on the bank's mission statement, the assessment of internal environment the bank owns, and the assessment of external environment the bank faces. Strategic choice is made based on strategy content. Strategic content can be viewed as the output of the strategy process, which is the intended on realized course of action selected to achieve the bank's long-term objectives/goals. Alternatively, the focus can be on the patterns in the stream of decisions or actions called strategy content. Basically, three levels of strategy commonly shown in textbooks are corporate, business, and functional level strategy.[7] Thus, the argument about limitation of the portfolio-theoretic approach to strategic choice and action follows a similar one as in the case of Porter's model.

Dynamic Strategy

Porter's model of competition is essentially static. However, competition is dynamic. The entry and exit, a long-term behavioral model, of firms in a particular industry result in the industry continuously changing its shape. The dynamics create a problem for the s-c-p paradigm. The portfolio-theoretic approach to bank management limited itself to ask and seek answer, for example to the following questions: (i) Do our competitions have visions of the future whilst we simply react to the present? (ii) Is the bank viewed as a rule follower or as a rule market? And (iii) is the source of the bank's strength operational efficiency or innovation and growth?

Strategic bank management is the process by which top management determines the long-run direction and performance of the bank. Several foundations, implementations and continuous evaluations must be answered to the following questions: what to produce, for whom to produce, when to produce it, how to produce it and, more importantly, how to manage its risk. To do this, we once again argue that a portfolio-theoretic/firm-theoretic method is indeed required to explore the strategic bank management.

Conclusions

In this paper, we have constructed a simple strategic management framework to study the role of a bank facing a rapidly changing financial environment. We utilize a framework of strategic bank behavior that integrates the risk considerations of the portfolio-theoretic approach with the market conditions of the firm-theoretic approach. Based on a reasonable and future viewpoint of bank decision-making and strategic management, it seems unlikely that the omission of either approach to bank behavior can be justified. More importantly, these considerations of the conceptual framework play a crucial role in managing a bank's portfolio risk and strategy decisions under its specific mission statement, accordingly, its own internal assessment (7 Ss), and external assessment (5 forces, and PESTEL). Earlier models of bank behavior that ignore these considerations are incomplete and many of their implications cannot be extended to models based on more general assumptions. As Allen (2000: 146) demonstrated:

> *"A more local version of interdisciplinary work is emerging within economics: the traditional distinction between microeconomic theory and macroeconomic theory is disappearing. The line has been blurred by the view that macroeconomics should be based on microeconomic foundations and general equilibrium theory. I anticipate that this positive trend will accelerate."*

More specifically, we make a predictable prediction within Allen's demonstration:

> *A version of integrated work is emerging within bank management: the traditional distinction between risk management in banking and firm management in banking is disappearing. The line has been blurred by the view that the portfolio-theoretic approach to risk management should be based on the firm-theoretic approach to strategic bank management. We anticipate that this positive trend of strategic bank management will accelerate.*

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Notes

1. Note that global bank does not mean that the World Bank will turn itself into a world bank. What we are likely to get is a combination of traditional forms of global banking system.
2. See Sealey (1977).
3. The management literature often refers to the management practice of "management by objectives". At the most general level a firm's objectives might be to maximize profits. Different "stakeholders", such as shareholders, customers, and employees, are likely to define the objectives of a firm in different ways. These different perceptions of what the firm should be doing often come into conflict with one another.
4. See, for example Sealey (1980), Mullins and Pyle (1994), Wong (1997), Lin (2000), and Lin and Teng (2001).
5. Some banks explore how they can expand their current services to include some products designed exclusively for electronic commerce. This development could include, for example, establishing Internet portals, verifying identities, assisting small business to enter electronic commerce, and issuing electronic money and checks. However, in recent years, a problem that has plagued banks is whether on-line banking will supplement the existing branch network or substantially replace them (Wenninger 2000).
6. Concerning the definitions of the seven S's and the interconnectedness of these variables, see Waterman, Peters, and Phillips (1980).
7. Corporate level strategy is concerned with the business in which the firm wishes to participate and the acquisition and allocation of resources to these businesses. Business level

strategy deals with the scope of each business and the operative skills with corporate strategy, and the basis on which the business unit will achieve and maintain a competitive advantage within its industry. Functional level strategy specifies how strategies, for example, marketing and manufacturing, will support the desired competitive business level strategy and compliment each other.

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