

# Review on Competitive Viability in Banking, Scale & Scope

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**Abstract – This paper explores the main forces that are driving this process. Acknowledging that the search for scale and scope economies is one of them, the paper emphasises that the empirical evidence in support of such economies is mixed, at best; while scale and scope economies exist, in principle, they are difficult to attain in practice. The paper considers strategic positioning in an uncertain and rapidly changing environment a more important factor: by expanding scope (and scale), financial institutions acquire options to venture into new activities.**

**Keywords: Banking, Sources of Scope, Scale Economies etc.**

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## I. INTRODUCTION

Interstate banking, deposit rate deregulation, and expansion of banking powers raise questions concerning the long-run competitive viability of different sizes and types of banks. A multi-product banking firm is competitively viable only if no other set of firms with different scales and/or product mixes could jointly produce the same product mix at lower (scale-adjusted) cost. The single-product analogy to competitive viability is production at minimum average cost. Competitive viability as defined here implies the more commonly used concept of cost sub-additivity, but not conversely.

Analysis of competitive viability is complex because no simple necessary and sufficient conditions exist and because competition may come from firms with virtually any scale and product mix combinations. Prior studies limit their investigations to two special cases: (i) ray scale economies, which compare the costs of firms that differ in scale but not product mix, and (ii) scope economies, which compare the costs of firms that differ in product mix but have the same scale for each output. These measures can determine whether existing firms are competitive relative to firms with exactly the--same product mix or firms that specialize completely. However, they may be of little use in evaluating competitive challenges between currently existing banks, since banks rarely, if ever, have the same product mix or specialize completely.

This study develops two new multi-product economy measures, expansion path scale economies and expansion path subadditivity that do not rely on assumptions of constant product mix or complete specialization (zero production of some products).

Rather, they capture the impacts of changing scale and product mix simultaneously and are therefore more general than ray scale and scope economies. The new measures combine scale and scope effects in examining the potential competitive pressure from banks that currently exist, a more likely source of competition than firms with the same product mix or specialty firms. 'Representative firms' at the means of different bank size classes are used to reflect the production and merger choices faced by competing firms in moving between size classes. Conventional scale and scope measures are also evaluated for comparison and completeness.

## II. SOURCES OF SCOPE AND SCALE ECONOMIES

Scale and scope economies essentially rest on (i) advancements in information technology, (ii) reputation and marketing/brand name, (iii) financial innovation, and (iv) on diversification. Let us look at these sources for potential scale and scope economies one-by-one.

Information technology is most likely of great importance. Recent developments in information technology facilitate a more efficient and effective use of databases over a wide range of services and customers. That is, client-specific information may allow for scope economies and facilitate a competitive advantage to financial institutions that offer a range of services to their clientele. Similarly, possibilities for reusability of information across customers may have increased.

Information technology helps in identifying related client needs. Scope economies therefore apply to

all products that could be sold to the same client group. Examples for bank-insurance conglomerates include: life-insurance features in mortgages, asset management/private banking services combined with life insurance, commercial credits in combination with industrial risk insurance, and export financing together with export credit insurance.

This also points at benefits related to distribution networks. Advancement in information technology may facilitate scale economies in running a sizable distribution network. Simultaneously, scope economies might become much more visible. For example, information technology facilitates an increasing array of financial products and services to be offered through the same distribution network. Customers may attach value to one-stop shopping, encouraging some financial institutions to offer a broader package of financial services tailored to particular customer categories.

Finally, developments in information technology may affect the possibility of control, thus facilitating the management of a bigger organisation. But it also true that sizable investment in information technology is needed to help make scale and scope economies become a reality [8].

Reputation and brand name/marketing also offers potential for scale and scope economies. Scope benefits may be present in the joint marketing of products to customers. Brand image is partially marketing related but is also linked to the notions of trust, reputation, and confidence. These notions play an important role in the financial services industry. Increasingly, financial service providers offer services that crucially depend on their reputation. For example, the growing importance of off-balance sheet claims puts great emphasis on the ability of financial institutions to honour these contingent liabilities. But also the success of modern, virtual distribution channels (Internet) may depend crucially on reputation. Under certain conditions, increasing scale and scope allows financial institutions to capitalise more on their reputation. That is, a wider scope (and/or scale) may help a financial institution to put its reputational capital at work.

A concrete example here is the Dutch bank-insurance conglomerate ING that offers direct banking services in Spain, for example. In advertisements, the name of ING is linked explicitly to Nationale-Nederlanden, ING's insurance subsidiary, a well-known and respected institution in Spain. Using a brand name established in one line of business when entering another is also used by other players (e.g. supermarkets leveraging their brand name when offering financial services).

Financial innovation as a source of scope and scale economies is a two-edged sword. On the one hand, one could argue that larger institutions are less likely to innovate due to the inherent bureaucracy. This

might be true, but that is a governance issue. On the other hand, *ceteris paribus*, larger institutions can better recoup the fixed costs of financial innovations. This is because innovations can be marketed to a larger customer base and/or introduced in a wider set of activities. In fact, for financial innovations, scale and scope might be particularly important given the rapid imitation by competitors. Only for a short period of time does a true competitive advantage exist. In these circumstances, a wider scope and larger scale may help recoup the fixed costs in this short period of time. Economies of scale and scope resulting from financial innovations should also be seen in light of the first two sources of economies: a wider range of products offered to a large client base in combination with advanced information technology can provide superior information for the design of financial innovations.

Bank-insurance combinations could potentially be successful in leveraging each other's product skills. For example, insurance subsidiaries could benefit from derivative innovations coming from the banking arm. Similarly, securitisation skills developed in banking are heavily cross-used, and, more recently, several securitisation innovations have been motivated by particular needs in the insurance operation. A related argument for combining life insurance and banking is that it could augment the total asset management pool, and thus offer scale economies. While this might be true, more recently banks and insurers have learned that the asset management operation requires distinct skills and is not automatically profitable as a passive spin-off from other activities. Thus, synergies are present, but not necessarily dominant.

Diversification means that financial institutions offer several products that might be close substitutes, for example pension-, life insurance-, and saving products. Combining these products and services under one roof makes institutions less vulnerable when savers substitute one of these products for other ones. This could be interpreted as a diversification benefit, but may also point at cross-selling benefits discussed in the context of benefits arising from the use of advanced information technology [9].

From a corporate finance perspective, diversification is a controversial argument. After all, investors in financial institutions could diversify; and why would a financial institution itself need to do this unless, of course, there are synergies and, thus, scope economies? Various frictions may help answer this question and, thus, explain the value of diversification. For example, diversification facilitates an internal capital market where cash flow generating businesses could help fund other activities that need funding. If raising external funds is costly, this may add value. Nevertheless, this might be a mixed blessing. Often the presence of

internal capital markets invites cross-subsidisation of marginal or loss-making activities that could wipe out potential benefits. Having said this, it is also true that a low volatility in returns is considered very important in banking, suggesting some benefit of diversification.

A link can also be made to the proliferation of off-balance sheet banking. These activities involve a plethora of guarantees that lead to contingent liabilities. For such activities, the credibility of the bank to honour such guarantees is crucially important. One measure of this is a bank's credit rating. With the proliferation of off-balance sheet banking, ratings have become more important. If diversification helps in getting a better rating, the case for diversification is stronger.

Diversification benefits may also accrue on the funding side, and direct funding synergies may apply. To illustrate, the mismatch between assets and liability on a bank's balance sheet (short-term funding vs. long-term assets) might be the reverse from that of an insurer with largely long-term obligations. However, corporate finance theory suggests doubts as to the validity of these arguments.

### **III. EMPIRICAL EVIDENCE ON SCALE AND SCOPE ECONOMIES**

Scale and scope economies in banking have been studied extensively. In general, the empirical evidence cannot readily identify substantial economies of scale or scope. Scale economies could not readily be found beyond a relatively small size of banks as measured by total assets. The story on scope economies is even more negative. Diseconomies of scope are quite prevalent. The mergers and acquisitions that were included in most studies took place in an environment where severe constraints existed on the type and geographic dispersion of activities. It is conceivable that these restrictions made it difficult to benefit from scale and scope economies. Moreover, most studies use data from the 1970s and 1980s. Since the structure, technology and environment of banking has changed dramatically over the last decades, it is not clear whether insights from those studies readily apply today.

In any case, most empirical researchers in the field of industrial organisation will acknowledge that scale and scope economies are very difficult to measure. So, at best, very modest conclusions could be drawn from these empirical studies. The presence of largely inconclusive results should then not really be surprising. Moreover, inefficiencies in managing larger organisations may mitigate possible scale and scope benefits. This would be in line with the sizable literature on the diversification discount, for instance, found an average diversification discount of 13-15 percent. Berger (2000) further observes that

managerial ability to control costs creates a differentiation in bank performance that may well dominate the potential scale economies. The difference between an average bank and the best-practice bank is about 20 percent (of the costs of the average bank), while scale economies in the 1980s were not more than 5 percent, but they are possibly larger today. Berger also argues that managerial ability may have an equally big impact on revenue efficiency [1].

Another issue is that the level of aggregation in most studies is high and may obscure benefits of scale and scope. In particular, aggregation does not allow identifying what type of merger and acquisition involves scale and/or scope benefits. Cognisant of this problem, in recent research that suggests that mergers with both a geographic and activity focus are most value-enhancing. This strongly suggests that in analysing scope and scale issues one should focus on the type of activity; this would allow investigating the scale economies in each activity as well as the scope economies associated with a particular product-mix.

### **IV. PROBLEMS WITH REALISING ECONOMIES OF SCOPE AND SCALE**

Economies of scope and scale may of course exist, in principle, but are difficult to achieve in practice. This could be for a variety of reasons. To begin with, technological frictions may severely hamper the realisation of potential benefits. For example, a merger between two financial institutions may not readily lead to scale and scope economies because the integration of computer systems may take time. An interesting account on this very issue is the integration of Citicorp and Travelers. A quote from the New York Times (1998) illustrates the issue clearly:

Citibank and Travelers say their deal is mainly about finding ways to grow rather than cutting costs. But the challenge will be finding common ground between Citicorp's traditional emphasis on advanced technology and Travelers' preference for low-cost, no frills systems.

The same article states that Citicorp has a backlog of past integration issues before it can even think of making its systems compatible with those of Travelers. This point is at potential frictions that can severely hamper the realisation of scale and scope benefits. Ultimately, the exploitation of benefits of scope might have to include the cross-use of databases from the insurance and banking side. Achieving this might have to wait until IT systems are finally made compatible.

Regulatory constraints may also stand in the way of realising potential scope and scale economies. If regulations force banking and insurance activities to be operated separately, potential scope

economies may be hard to attain. This problem was most acute in the United States where up until recently insurance and banking activities could not be combined under one corporate roof. In many other countries, regulations have been less stringent but could still have a major impact on the feasibility of realising scope economies.

Difficulties in implementing mergers and acquisitions could also turn out to be formidable obstacles to reaping scale and scope economies. For instance, the challenges of staff management in large institutions, especially when they combine different cultures and corporate identities, are notorious. In sum, managerial ability is crucial, but not necessarily on hand, for overcoming such obstacles.

A final barrier worth mentioning is political considerations. Many governments seek to protect their domestic financial institutions; what is more, they may want to create or preserve “national flagships” to ensure domestic ownership and control. And even if cross-border mergers would occur, a policy favouring “national flagships” would prevent true integration (or rationalisation) of activities. Scale and scope benefits can then not materialise -even if potentially present.

## V. REVIEW OF LITERATURE

Young & Hunter (2002) states deregulation and technological change are transforming U.S. commercial banking from an industry dominated by thousands of small, locally focused banks into an industry where a handful of large banks could potentially span the nation and control the majority of its bank deposits. This paper examines the comparative strengths and weaknesses of large and small banks in this new environment, and outlines the strategic opportunities and threats that new technology – especially the Internet – pose for U.S. banks. Although the number of small banks will almost certainly continue to decline, we conclude that well-run small banks should be able to adjust their business strategies to the new environment and profitably co-exist with large, globally focused banks [2].

Maggie & Emily (2011) uses a parametric approach within a translog cost function framework to estimate the economies of scale and scope in Macau’s banking sector from 1995 to 2006. The results indicate significant diseconomies of scale and economies of scope for Macau banks throughout the sample period regardless of their size and ownership. Further analysis provides evidence of significant product-specific economies of scale and scope, which vary according to bank size and ownership. The findings suggest that Macau banks should diversify their asset portfolios to gain greater cost advantage. However, expansion in size should be discouraged under current technology because it appears to be cost ineffective. In addition, our

findings lend strong support to the implementation of the universal banking model in Macau [3].

Noulas, Miller & Ray (2004) consider economies and diseconomies of scope for large U.S. banks by employing ordinary and hybrid translog cost functions. We examine the regularity conditions in output space where scope estimates are calculated and reject all models for which these conditions fail. The translog model always possesses violations. For the hybrid translog, violations occur in every case except one. In this one case, we find economies of scope [4].

According to Goldberg et al. (2006) economies of scale and scope for the securities industry are estimated for the first time using previously unavailable survey data and employing the translog multiproduct cost function model. The results reveal economies of scale for smaller specialized firms and diseconomies of scale for larger more diversified firms. Economies of scope do not appear to be important in the industry. If the Glass-Steagall restrictions are relaxed, the results suggest that banks can enter the securities industry with a brokerage division of moderate scale of about \$30 million in revenues. The live million in new equity required suggests that only banks with assets over \$1 billion and over \$60 million in capital can enter the industry with a relatively modest investment. There are, however, a substantial number of banks with over billion in assets who can be considered as potential entrants [5].

Boot (2017) Information technology plays a leading role in the transformation of banking. The deepening of financial markets has profoundly affected the business of banking. The recent focus on fintech – basically, new technology-driven players entering the financial services industry – is the latest manifestation of the impact of information technology on the industry. This study will focus on the structure of the banking industry going forward. We will try to draw lessons from the (older) literature on scale and scope economies in banking. Much uncertainty remains as fintech will lead to a disaggregation of the value chain, and will challenge the bank-customer interface at the core [6].

Rossi & Beccalli (2017) documents the presence on average of cost economies of scope and revenues diseconomies of scope in the European banking industry, that is, banks minimize total costs or minimize revenues, given a certain level of outputs, producing a differentiated mix of outputs. Differences emerge among banks of different sizes: both revenue and cost economies of scope tend to increase with bank size. Our results are particularly important in the light of the 2017 EU banking supervisory priorities and of the 2014 structural reform proposal on the EU banking industry, which aims to separate the traditional

commercial banking from the investment activity [7].

## VI. CONCLUSION

Banking is too much in turmoil, and specialisation within the value chain may lead to an overly vulnerable dependence on the other players. But ultimately, it does not seem unrealistic to expect the emergence of, for example, product specialists without distribution network. While the possibility for scope and scale economies is generally present, the distribution network for financial services is a primary source of such economies. The potential for scope and scale economies, a variety of factors may undermine the possibility for realising scope benefits. This makes it even more important to have well-focused operations and abstain from scope-expanding strategies that would complicate operations.

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