Adapting to Change in the Investment Banking Industry

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THE INVESTMENT BANKING INDUSTRY

The investment banking industry consists of firms engaged in activities related to issuing, distributing, and selling securities. They also provide merger and acquisition (M&A) advisory services and research coverage. This paper focuses on the major players in this industry. These have historically been Morgan Stanley, Merrill Lynch, Goldman Sachs, Bear Stearns, Salomon Brothers (merged with Smith Barney and later acquired by Citigroup), Lehman Brothers, Warburg (now UBS Warburg), and First Boston (now Credit Suisse First Boston). Relatively new competitors include JP Morgan Chase, American Express and Citigroup. Top foreign banks competing in the US market are Deutsche Bank and Dresdner Kleinwort Wasserstein.

This paper analyzes traditional barriers to entry in investment banking, examines how they are threatened, and recommends strategies for sustaining profitability.

A) History of the Industry

Investment banking in America evolved gradually out of the hodgepodge of financial services first available in the early 1800s.

American Developments during the Civil War era The American need for capital attracted representatives of such European houses as the Barings, the Rothschilds, and the Speyers. Soon thereafter, a number of German Jewish immigrants with commercial, if not directly financial, family backgrounds – most notably the Seligmans, the Lehmans, Solomon Loeb, and Marcus Goldman – moved from assorted mercantile activities into private banking.

Post-Civil War Era Investment banking exists when ultimate investors abandon to professional middlemen the original market for new subscriptions.

By the post-Civil War decade, the market for financial services was changing in important ways. Much in evidence, for example was so-called active investment banking – banker influence (through membership on corporate boards or finance committees) upon the policies of client companies. Bankers' services, general financial advice, and reputation were highly enough prized that the client companies gradually came to encourage long-term alliances with selected investment houses – their "principal bankers".

However large the profits, the firms at the top of the pyramid did not try to compete in every niche of the market. Their strength lay in their ability to put together a group of investors – particularly institutional investors – more effectively than anybody else.

Post-Depression Era Following the great crash of 1929, public confidence in the system evaporated. Revelations of stock waterings, bank mismanagement, and slipshod practices on the stock exchanges finally broke the terms of the long-implicit compact between bankers and society. Fevered speculation in overpriced paper further tarnished the industry's reputation. Industry self-regulation was no longer enough. Demands for external regulation could no longer be avoided.

After years of functioning without stringent external regulation, the industry became, in the course of the decade, one of the most heavily regulated industries in the country. A variety of New Deal enactments – the Revenue Act, the Securities Act, the Securities Exchange Act, and of course, the Glass-Steagall Act – wrought great changes. A major effect of the Glass-Steagall Act was to sharply

[1] For a detailed account, refer to "Competition in the Investment Banking Industry", Hayes, Spence and Marks (1983). For yet another account, read "History of Investment Banking", Nanda, Delong and Roy (2002).

curtail the natural entry of firms. Some established participants – the commercial banks, for example – were forced to leave the industry. We will examine this later in detail.

Post-WWII Era For nearly twenty years after WW II, not enough new business existed to strain the industry's traditional pyramid structure, reinforced as it had been by the provisions of Glass-Steagall. Interpyramidal competition at the apex – that is, the slow jockeying for position among established houses continued at its normally unhurried pace. With minimal real growth in the volume of securities to be underwritten and retailed, therefore, the smaller houses had little on which to base an upward move. In fact, six of the top eight firms in 1950 remained among the top eight firms three decades later.

The 80s and 90s Few business benefited from the almost continuous eighteen-year period of economic prosperity from 1981-1999 as the U.S. securities industry did. At a time when US GDP increased at a compound (nominal) rate of 7%, U.S. and world equity market capitalization and trading volume increased at about twice that rate. The worldwide volume of new issues of equity securities increased at 19% and debt securities at 25%. The volume of worldwide mergers and acquisitions also increased by more than 25% per annum during the period.[2]

In 1999, the Glass-Steagall Act, was repealed after years of effort to do so. At the time, there was very little support for keeping commercial banks out of the securities business, for a variety of reasons. Regulatory change, the volatility of trading markets, and increased competition caused a few of the major players to change. Firms like Merrill Lynch, Goldman Sachs and Salomon increased their market shares at the expense of the more conservative, less adaptive firms. A number of firms that were generally thought to be unable to keep up with competition, including Dillon Read, Chase Manhattan, JP Morgan and Paine Webber, merged with a stronger partner.

B) PORTER'S ~~FIVE~~ SIX FORCES

Having taken a look at the history of the industry, let us now apply Michael E. Porter's "Five Forces" analysis to the industry. We also look at complements.

Rivalry: The structure of the securities industry is somewhat puzzling – some elements point towards collusion, others towards intense marketplace competition. The industry seems to have low barriers to entry for small, upstart players but very high barriers to catapulting firms into bulge-bracket status. No wonder, then, that historically, the industry has resembled a pyramidal structure, with the "bulge bracket" firms at the top and "boutique" banks at the bottom. The existence of relatively few competitors in the bulge bracket reduces rivalry. There appears to be cooperation among the major banks, and except for distribution, concerted efforts have been made to prevent the business from being a commodity-like business. As a consequence, commissions or "spreads" have clustered around a high number over the past five decades or so.

However, times are changing, and since the repealing of the Glass-Steagall Act, which effectively prevented commercial banks from being in the investment banking business, competition has grown fiercer.

[2] Roy C Smith, "Strategic Actions in Investment Banking" (2001).

Supplier Bargaining Power: Supplier bargaining power has traditionally been high, but it might diminish in the face of new competitive challenges.

Investment banking is essentially a relationships business, and stronger the network of critical investors a bank has, the more supplier power it has, and the more rents it can extract. In addition, some banks are more specialized in some industries than other banks, and this gives them additional supplier power in that particular industry.

Buyer Bargaining Power: Buyer bargaining power is considerable on the surface. Switching from one investment bank to another seems to entail few costs. In spite of this, statistical studies show that investment banks enjoy significant client-base loyalty. We will examine later how.

Buyer bargaining power should be on the rise owing to the increase in the number of suppliers of investment banking services and also because of innovations such as Internet IPOs and online brokerages. The reduced spreads should reduce industry profits. However, a closer look at the industry has convinced us that the typical users of the major investment banks are quality-conscious and relatively price-insensitive. This helps us explain partly why spreads as high as 7% for IPOs have existed for 90% of deals between $20 million and $80 million.[3]

Substitutes: Historically, there were no clear substitutes for services such as IPOs, underwriting, distribution, M&A advisory, etc. Technology, however, is changing that. Though still at a germinal stage, it is generating unprecedented alternatives.

Threat of New Entrants: Securities firms and commercial banks without a substantial history of involvement in classic investment banking have long eyed this unusually profitable end of the business with envy. After the repealing of the Glass-Steagall Act, commercial banks and other financial service organizations are making a determined effort to edge their way into investment banking services. This is true not only of domestic banks, but also of foreign banks with merchant banking competence developed in other markets around the world.

Investment banks are also facing a competitive threat from firms like OpenIPO, Wit, and W.R. Hambrecht & Co. who are developing innovative ways of doing IPOs over the Internet. Later in the paper, we will evaluate how serious this threat is.

Complementary Services: An important issue we discuss is whether it is wiser for an investment bank to merge with a commercial bank or an insurance company and form a financial conglomerate, a "universal bank", or operate as a stand-alone investment bank. The recent trend has certainly been towards consolidation of services. We also discuss bundling strategies for investment banks.

C) Traditional Barriers to Entry

- Relationships

"The most fundamental tenet for any investment banker at Merrill today is to go and call on a client. It is getting back to the basics of the business." - Kevan Watts, co-head of Merrill's global investment banking group.[4]

There are two important entities investment banks maintain relationships with: firms issuing securities or requiring corporate-finance services, and investors. Especially from the post-Civil War era, active investment bankers have relied on key corporate relationships to secure deals. For the

[3] "The Seven Percent Solution", Chen and Ritter (2000).
[4] "Will Enron Hurt One-Stop Shopping?", Financial Times Business Limited.

banks, relationships mean assured access to a substantial income, which is necessary to attract and motivate the talented people who service the clients. These bankers are called "rainmakers" – people who bring in important, lucrative business.

To do deals banks can use an arm's-length technology (i.e. on a transactional basis) that is linear in deal volume, or a relationship technology. Each relationship is costly to set up but once established, the marginal cost of doing deals is zero. Loose linkage between costs and fees implies that investment banks must pay the cost of establishing relationships but cannot directly charge for them. Sunk set-up costs imply that only firms with large enough volumes will establish relationships; small firms will be served by fringe banks. Hence, a dual market structure emerges where competitive conditions in the arm's-length segment do not affect competition in the relationship segment.[5]

Let us now examine why there is an incentive for issuing firms and investors to maintain relationships with major investment banks. In IPOs, book-building is a mechanism through which underwriters canvas potential buyers and then set an offer price. A key feature of book-building is that the underwriter has complete discretion in allocating shares. After stimulating demand, underwriters try to set an offer price where there is excess demand and allocate the securities to various investors based upon various criteria. Institutional investors who might be expected to buy and hold the securities, based on their existing portfolio holdings, would be favored. Indications of interest are legally non-binding, and they are offered in the context of an ongoing relationship between the bank and its institutional investor network. Investors who were willing to buy when demand was weak are rewarded with favorable allocations when demand is strong. This intertemporal pooling lessens the winner's curse problem, and in equilibrium results in less underpricing than if shares were allocated on a pro rata basis when there is excess demand.[6]

In their 1988 book on investment banking, Harvard professors Robert Eccles and Dwight Crane show how the banks' relationships with corporate clients have provided them with a constant flow of information that has shaped the design of products and services. The design of new securities products is more an art than a science - an undertaking that, Eccles and Crane suggest, benefits from day-to-day client interaction and experimentation.

In fine, there are considerable benefits in establishing relationships, both for banks and firms they service. Over time, these relationships have proven difficult to dislodge and therefore are considerable barriers to entry.

- Reputations

Closely related to relationships are the reputations that the major players have acquired over the years. The first mover advantages in this industry are largely historical ones, with firms developing intangible, crucial reputations.

A bank's reputation for reliability, proven ability to deliver as promised, and degree of control over a security's value on the secondary exchanges is all critical to its success. Once established, this reputational barrier to entry can be difficult to overcome.

James (1992) finds that in the first common stock security offering after an IPO, 72% of firms choose the same lead bank as before; for debt offerings, 65% of issuers do not switch banks.

The economic benefits to a firm of associating itself with higher-quality underwriters appear to be well established.[7] Michaely and Shaw (1994) show that higher quality underwriters underprice less.

[5] "Relationships, Competition, and the Structure of Investment Banking Markets", Anand, Galetovic (2000).

[6] "Investment Banking and Securities Issuance", Jay R. Ritter (2002).

Firms also select a reputed investment bank for the important signaling effects (e.g. quality of investment bankers, skill at valuation, value of advising, reputational value of certification) that this has on their potential investors.[8]

- Cooperation

There is a coexistence of competitive and apparently collusive features in the investment banking industry.

In their paper on "Relationships, Competition and the Structure of Investment Banking Markets", Bharat N. Anand and Alexander Galetovic contend that "[for major investment banks], in equilibrium the gains from continued cooperation must outweigh the gains from undercutting to grab more deals." As Rajan (1995) points out, "... it is unlikely that the securities business is the textbook competitive industry."

This assertion is borne out by the fact that in recent years more than 90 percent of IPO deals raising $20-80 million have had spreads of exactly seven percent, three times the proportion of a decade earlier.

An investment bank can always make profits by undercutting and destroying cooperation. However, it will do so only when undercutting is at least as profitable as cooperating. Many accounts of the industry suggest that price competition is restrained by informal unwritten rules. Investment bankers readily admit that the IPO business is very profitable, and that they must avoid competing on fees because they "don't want to turn it into a commodity business."

There is also the credible threat of punishment. As Rolfe and Troob (2000, p.103) put it, "The spreads are sacrosanct. He who cuts spreads will himself become an outcast. The community of investment banks has always been small enough so that if one bank were to break ranks on the pricing issue, the others would quickly join forces and squash the offender. Every banker knows that the pricing issue is a slippery slope best avoided because once the price cutting begins, there's no telling where it will end."

What tempers fees, then? The answer lies in the fact that fees that are too high weaken the incentives to punish a deviator, and are not sustainable in a long–run equilibrium.

Owing to the nature of the industry, each bank must establish relationships with a sufficiently large fraction of firms. Only then will the gains from continued cooperation outweigh those of undercutting. This observation generates a rationale for big banks. But, at the same time, banks cannot be too large. The reason is that if a few banks grab all the relationships, it becomes profitable for the remaining banks to undercut, because the value of continued cooperation dwindles.

Aggregate monopoly power is not necessary for firms to establish relationships. In fact, cooperation is not feasible with a dominant relationship bank. Maintaining an oligopoly is "equilibrium behavior"

[7] Yasuda (1999) also finds that in corporate bond underwriting, firms are willing to pay a premium to banks with whom they have had a relationship.

[8] "Firms will tend to switch underwriters when they can obtain the services of a higher reputation underwriter for the follow-on offering. Hypothesis 5 suggests that firms do not necessarily change their underwriters as punishment, or a reaction to poor performance. Rather, the firm selects a higher reputation investment banker for the unquantifiable benefits associated with its status." (Krigman, Shaw and Womack)

in this industry.[9]

- Glass-Steagall Act

Traditionally, banks were capable of providing both commercial services (taking deposits and making loans) and investment banking services (aiding companies and governments in selling securities to the public). Amid a period of widespread bank failures during the Great Depression, Congress proposed a bill that contained two provisions: the first would create a federal deposit insurance system (now known as the FDIC) and the second, named the Glass-Steagall Act, which proposed the separation of investment banking from commercial banking.

Commercial banks are natural entrants for the investment banking industry, owing to the sheer size of their assets. For the investment houses already in place and for the houses recently formed, restrictions on the ebb and flow of these commercial banks proved a boon. The Glass-Steagall Act thus proved to be a major barrier to entry till it was finally repealed in 1999.

- Economies of scale

In the past decade and half, investment banks have grown in size and scope, largely through mergers; most of the larger firms have also converted to publicly traded stock companies. A reason for the increase in size of investment banking firms is the increased importance of information technology, with large fixed costs and low marginal costs.

There are transactional costs for a firm doing a deal with a non-major investment bank. These costs capture the fact that the information and knowledge gathered in a relationship are useful in designing the right deal structure (see Eccles and Crane [1988] for an elaborate account). The transaction costs are proportional to deal size because the costs of erring in the correct deal structure increase with the size of the deal.

Economies of scale explain the clear segmentation of the industry. Firms with low transaction volumes do not generate enough fee revenue to compensate banks for incurring the sunk cost of establishing relationships. Hence, low volume firms are rationed out of the relationship banking segment and are serviced by arms-length or “boutique” firms.[10]

Moreover, fringe banks cannot compete for the business of high-volume firms because charging less would make them lose money. And, relationship banks do not want to serve low-volume firms. Therefore, competition among banks cannot integrate the two segments of the market.[11]

Second, James (1992) finds that the marginal cost of repeat-business with the same firm is lower, so underwriters charge lower initial fees when they expect follow-on deals with the same firm.

- Research and I-banking synergies

In recent times, major investment banks used their supposedly independent research departments to win investment banking business. The process was simple: research analysts issued favorable recommendations of stocks of certain firms. Those firms rewarded the analysts’ banks with investment banking business. Significant compensation incentives existed for analysts to do this.

Smaller investment banks could not exploit the same synergies as their research departments were not as influential. Thus, research provided a barrier to entry as well as a barrier to internal mobility in the industry.

[9] Refer to the definition provided by Preston R. McAfee, “Competitive Solutions”
[10] “Relationships, Competition, and the Structure of Investment Banking Markets”, Anand, Galetovic (2000)
[11] Ibid.

D) Erosion of Barriers to Entry

In this section, we analyze why some traditional barriers to entry might be threatened or falling.

- Technology - internet IPOs, etc.

Advances in technology, more specifically advances in the Internet, have dramatically reduced costs of direct communication of banks with individual investors. The first firm to take advantage of this shift in relative costs was Wit Capital founded in 1996. Now regarded as the "Internet Investment Bank", Wit offers IPOs to retail investors on a first-come-first-served basis. W.R. Hambrecht & Co. followed up with their OpenIPO auction system which allowed the public to bid on the shares of IPOs the firm manages. This system has reduced spreads to 3-5% of gross proceeds, a decrease from the 7% traditionally charged by investment banks under the relationship-based system. By undercutting spreads, internet IPO companies threaten the profitability and thereby the cooperation of the incumbent banks. Once the technology is developed further, the relatively low costs of setup can attract more entry and further drive profits down.

- Increasing Competition

Since the repealing of the Act, several commercial banks have entered the market, most notably Citigroup, JP Morgan, and CSFB. With their strong balance sheets, commercial banks certainly threaten to win business away from investment banks. This will make undercutting attractive and threaten the whole cooperative fabric of the industry.

There is also an increasing challenge from foreign banks. Foreign banks have a tremendous advantage in international investment banking because they have access to abundant low-cost foreign currencies. Based on the constant evaluation of political, economic, and financial factors in an environment, foreign banks alter their investment and lending decisions.

- Recent Scandals and Impending Regulation

The most serious challenge in recent times for investment banks has been restoring their credibility in the capital markets. Numerous shady practices such as overenthusiastic research recommendations, preferential allocation of IPOs to key clients, and exchanging subsidized loans have come to the surface. Investors realize that they were being misled. Client-base loyalty seems to be diminishing as investors look for other alternatives.

Impending regulation, such as separation of research and I-banking, will certainly harm the quid pro quo that existed between investment banks and issuing firms which sought short-run profits. This will erode the barrier to entry posed by the synergies between research and I-banking.

The negative impact of the scandals goes deeper than this. As we saw earlier, relationships and reputations are critical or investment banks. The recent scandals threaten to harm these important barriers to entry.

E) Strategies for Investment Banks

1) Regain trust through signaling

Investment banking always attracts a lot of press. This, of course, cuts both ways. In the past two years, they have been moralized and editorialized against for their unethical practices. Of course, the allegations have been mostly true.

Admitting that malpractices occurred, and harsh steps are being taken to remedy the conflicts of interest, might help to restore the tarnished reputations of the big banks. Prof. Sandy Leeds of the McCombs School of Business remarks, "Self-regulation is mostly a sham, and everyone knows it." This might mean that cooperation with the authorities rather than resistance through promises of self-regulation will send better signals to investors.

Another signaling effect banks should pay attention to is the quality of securities they issue or underwrite. During a recession, it is highly tempting to go after any deal possible.[12] This should be avoided for two reasons. Firstly, as we saw earlier, the sunk costs of establishing a relationship with a non-regular firm cannot be recovered through future rents from the firm, given the low probability of the firm having large business volumes. Secondly, the key reason why investment banks have been able to charge a high markup over marginal cost is because of their reputational capital. Anything that enhances this capital should be done; anything that can harm it should be avoided.

2) Lobby for more regulation for competitors

Universal banks such as Citigroup, JP Morgan Chase, and Bank of America have entered the US market with their heavy balance sheets, and pose a major threat to the pure investment banks. Since they are reputed, successful banks, they have overcome important barriers to entry such as reputation, relationships and access to capital. The optimal strategy for them is, or might be in some time in the future, to undercut prices to gain market share.[13]

"[BNP Paribas] will also keep up the drive to use the capital allocated to the business as efficiently as possible, by actively promoting cross-selling between the various business units and with the other divisions of the Group. This will be achieved by systematically segmenting the customer base and scaling down the volume of low-margin loans to customers who do not buy any other products or services." – BNPParibas.com[14]

Universal banks have a conflict of interest in that they would like to make cheaper loans to firms that will give them investment banking business in return. This is clearly seen from the above snippet from BNP Paribas's website. By bundling their services, commercial banks are hoping to exploit complementarities that will put pure investment banks at a disadvantage. There is plenty of evidence that the universal banks' strategy is paying off. Over the past year, full-service banks have featured in deals that formerly would have been dominated by the pure investment banks such as Goldman Sachs, Morgan Stanley and Merrill Lynch, which do extend credit, but only to their closest clients

[12] "Through Gritted Teeth", Economist.com, Sept. 26, 2002.

[13] Gande, Puri and Saunders (1999) have provided evidence that commercial bank entry into underwriting debt issues has been associated with a reduction in the gross spreads paid by issuing firms. There is no evidence that the same effect is happening in IPOs, however.

[14] http://www.bnpparibas.com/en/groupe/strategic.asp

and even then, on a transactional, high-margin basis.[15]

In order to protect their profitability, pure investment banks need to draw the attention of the regulators to these conflicts of interest. The universal banks are vulnerable, given the current atmosphere which is conducive to more regulation of the industry. Even issuers are complaining privately to some bankers that they can no longer get the best deal execution because the issuers are forced to use underwriters that are major lenders to their companies.[16]

Separately, investment banks could question the business model of the universal banks. Questions such as "Are banks putting too much capital at risk to secure the more appealing investment banking business? Is depositor money being put at risk in the process? Is too much capital chasing too much risk?" might be helpful.

Our feeling is that the universal banking model is not feasible in the long-run partly due to the temptation of overextending, and partly due to regulatory concerns (which can be highlighted by other investment banks). However, if the model does work, it will certainly harm the profitability of the pure investment banks. In such a scenario, these banks can look for strategic mergers or become takeover targets.

3) Tackling Internet IPOs

- Publicize flaws in potential competitors

We saw earlier how some companies are offering Internet IPOs and undercutting the traditional spreads. However, issuing stock to a large pool of small bidders might not be efficient for the issuing firm.

Biais and Ferguson (2002), Sherman (2001), and others argue that book-building is a superior mechanism for selling IPOs relative to auctions. Their argument is that book-building can be viewed as a dynamic auction conducted by underwriters, with the advantage that underwriters can use their discretion in allocating shares to reward regular investors who provide reliable information about the valuation to the underwriters.

In addition to the fee structure and the initial pricing issues examined by James (1992) and Nanda and Warther (1998), investment-banking firms provide more than simply pricing the IPO for their clients. At the time of an IPO, underwriters are responsible for marketing the issue through a road-show, placing it in the hands of committed long-term investors, and providing price stabilization in the after-market. And, the relationship between the issuing firm and the underwriter does not end at the IPO date. Following the IPO, underwriting firms are also expected to maintain an active market in the shares of the issuer for those firms

Especially for corporate finance services, the banker's network provides for continuous measurement of the "pulse" of the marketplace. It is unlikely that information technology will soon substitute for considerations of trust and confidentiality central to the free flow of information.

Publicizing these disadvantages will reduce demand for the Internet IPO-kind of services and thereby deter entry.

[15] "Universal banks put more strings on lending policies", efinancialnews.com, Jan.20, 2002
[16] "Could Merrill Woes Spread", Investment Dealer's Digest, May 13, 2002

- Create excess capacity

It is our conclusion that Internet IPO firms don't pose much of a threat to the major investment banks. Apart from the superiority of the traditional investment banks' services, it should also be observed that their customers aren't price-sensitive. In a recent study, fee structure received the lowest ranking among all decision criteria when selecting a lead underwriter.

However, history teaches us that technology cannot be ignored. Auctioning theory and internet technology might soon grow sophisticated enough to override the current disadvantages. Faced with a choice of significantly lower spreads, issuing firms might switch to these new firms.

In such a scenario, a strategy akin to divisionalization can be adopted.[17] Divisionalization creates the ability to commit to higher production levels than might be optimal from the overall firm's perspective. The company might want to commit to greater output in order to forestall entry, to discourage rival investment, or to encourage rivals to reduce output. For example, some of the major investment banks could invest in a public manner in capabilities to do Internet IPOs. The signaling would be that if small firms enter, these big banks will exercise their online IPO arms. Given their reputation and network, issuing firms will naturally prefer the major banks, even for a premium price (though this would be lower than the current spreads). This reasoning will certainly deter entry.

3) Continue to do the right things

- Bundling

Integrated investment banks with a wide range of services – financing, underwriting, investment research, private placement, mergers, acquisitions and restructuring, venture capital, etc. are likely to be successful in the long run. "Complementary goods and services are a critical component to business strategy and provide the best route to sustained profitability."[18]

- Strengthen relationships – spatial preemption

Related to providing bundled services is the strategy of spatial preemption – essentially filling up the product space. Investor relationships that act as a major deterrent to entry should be strengthened so that they will prove extremely difficult to dislodge.

- Differentiation

The matching of investment banks to corporate clients results at least in part from differing bank strengths and differing mixes of underwriting skills that corporate clients may value. For example, a corporation that either needs or wants to distribute its new equity shares to individual, noninstitutional investors may seek a bank with a large retail secondary-market brokerage capability. Another firm whose securities sell well to institutional investors may be less interested in retail distribution. Certain types of clients and industries tend to gravitate toward investment banks with certain profiles. This reduces rivalry and the incentive to cut prices. Therefore, this should be encouraged through forming integrated but differentiated banks.

F) Conclusions

Historically, the investment banking industry has enjoyed unusually high profits due to formidable barriers to entry. Factors such as technology, deregulation, and improper behavior have eroded these barriers. The industry now faces new entrants in the market which threatens the profitability of incumbent firms. Significant strategic actions are required in order for these existing firms to sustain their profitability.

[17] Preston R. McAfee, "Competitive Solutions"
[18] Ibid.

Appendix A: Leading U.S. Underwriters: All debt and Equity, 1999
Ranked by dollar volume raised in new issues

Lead Manager	*Dollar Volume (Millions)*	*Number of Issues*	*Share of Market*	*Added Share*
Merrill Lynch	$332.385	2,000	15.9	15.9
Solomon Smith Barney	261,532	1,502	12.6	28.5
Morgan Stanley Dean Witter	216,421	2,253	10.3	38.8
Goldman, Sachs	197,615	2,063	9.4	48.2
Credit Suisse First Boston	177,139	1,133	8.4	56.6
Lehman Brothers	159,002	897	7.8	64.4
Chase Manhattan	121,022	1,097	5.8	70.2
J.P. Morgan	82,639	497	3.3	73.5
Bear, Stearns	78,695	578	3.8	77.3
Bank of America	76,605	654	3.7	81.0

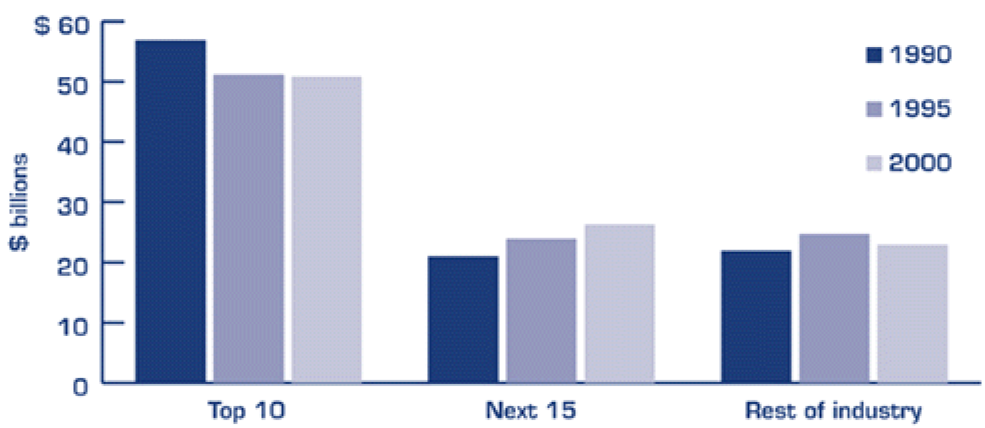
Source: Santamero and Babbel (2001, ch.21).
Note: All credit is given to lead underwriter.

Appendix B: Leading U.S. Underwriters: All debt and Equity, 1999
Ranked by disclosed fees

Lead Manager	*Dollar Volume (Millions)*	*Number of Issues*	*Share of Market*	*Added Share*
Morgan Stanley Dean Witter	$1,897	2,253	15.6	15.6
Goldman, Sachs	1,747	2,063	14.4	30.0
Merrill Lynch	1,474	2,000	12.3	42.3
Solomon Smith Barney	1,293	1,502	10.7	53.0
Credit Suisse First Boston	987	1,133	8.1	61.1
Donaldson, Lufkin, & Jenrette	795	436	6.6	67.7
Lehman Brothers	602	887	5.0	72.7
J.P. Morgan	566	497	4.7	77.4
Bear, Stearns	369	578	3.0	80.4
Deutsche Bank	336	393	3.0	83.4

Source: Santamero and Babbel (2001, ch.21).

Appendix C:
SECURITIES INDUSTRY CONCENTRATION BY TOTAL REVENUE, 1990, 1995 AND 2000
($ billions)



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