Introduction

It doesn't take much research to recognize that the Internet has already had a profound effect on the delivery of financial services and is likely to bring more radical changes. Some years ago, Mary Meeker (Morgan Stanley Dean Witter's Internet analyst) forecast that financial services would be among the industries most profoundly affected by the Internet, since the distribution of financial products doesn't require any physical exchange of goods. We now believe that the one-two punch of technology and deregulation will irreversibly alter the way business is generated in financial services, particularly on the consumer side.

With massive change under way, the Morgan Stanley Dean Witter U.S. financial services team set out to plot a course through the new landscape that's emerging. We tapped our Equity Research department and external contacts to formulate a clearer picture of (1) what the Internet means for this sector of the economy, (2) how it will change the ways companies create value (both for customers and for shareholders), and (3) what steps corporate participants should take to end up on top when the dust settles.

This report explores some of the ways that we expect the Internet to reshape consumer financial services over the next two to three years. Many of these trends will transform the value chain in traditional financial services business models, and in the following section ("Creative Destruction in the Value Chain") we detail those changes in six sub-sectors of financial services. We then dissect traditional and emerging business models. This analysis in turn drives our rankings of individual companies and our investment recommendations. At the end of the report, we provide snapshots of selected players in financial services, both present and future.

In this introduction, we highlight some of the key themes that we expect to unfold; profile the four business models we've defined; and list the companies we believe will have the right stuff to succeed.

How Financial Services Will Evolve on the Web

• **We project compound annual growth of at least 34% for consumer financial services on the Internet over the next four years.** We estimate that U.S. consumer financial services business conducted over the Internet will grow to $435 billion-plus in revenues by 2003 from an estimated $103 billion today. This projection includes consumer banking, brokerage services, auto insurance, term life insurance, and credit card interchange fees. The implied compounded annual growth of 34% will likely prove to be very conservative.

• **Competitive intensity should escalate as technological and regulatory barriers fall.** Some financial services providers will benefit significantly from the potential for reach and product diversification from the double whammy of the Internet and deregulation. Financial services companies and technology portals alike are looking for ways to capture consumers nationwide and ultimately worldwide. They will offer a range of services that includes banking, brokerage, life, auto and home insurance, retirement and estate planning, mortgages, and credit cards. Access to these services may be at single-company sites or through sites that aggregate pages of several companies. Insurers, for example, may find themselves competing against today's banks, brokers, and technology portals.

• **Price transparency can't help margins!** It began with $15-per-trade brokerage commissions and can only move on from there. Simply stated, pricing information on the Internet is readily available, and the Web enables consumers to shop at home for the best prices. This information, combined with increased competition, will likely drastically reduce costs to online consumers for some financial products over the next few years. For example, we estimate that the average cost of stock trading for retail online investors could fall 70% over the next five years. We envision that

Table I-1

Online Financial Services Revenues

($ Billions)

Sub-Industry	1998E	2003E	Implied CAGR
Consumer Banking	24.0	235.0	58%
Brokerage	2.5	32.0	67%
Term Life Insurance	0.0	0.7	181%
Auto Insurance	1.0	18.0	78%
Mortgages	75.0	147.2	14%
Credit Card	0.1	3.5	104%
Total	$102.6	$435.4	34%

Source: Morgan Stanley Dean Equity Research net banking revenues from online accounts will drop 10–15% as a result of higher rates on deposits offered to compete for customers. And prices for online auto and life insurance products could drop by 10%.

• **We expect to see consumer empowerment and mass customization.** In our view, the financial services industry is undergoing a sea change as technology, the Internet in particular, has shifted the balance of power from traditional financial intermediaries toward the end user, including both retail and institutional customers. On balance, we think the consumer, with his/her widely coveted eyeballs, will reign supreme because usage by cybersurfers will determine how much high-margin money (from alternative revenue sources) a website can attract.

The Internet's clarity in pricing and virtually unlimited ability to educate are helping to create discerning consumers. Moreover, technology affords users the ability to sort through unbundled products and repackage them, paying only for the ones they want and discarding those that don't deliver value. It can also display all these products in an easy-to-use format that can be customized according to individual preferences.

Price clarity and consumer empowerment will monumentally alter the business model, in our view, because they will lead to product and price customization. Therefore, one of the most important steps for product-driven financial services providers is to transform themselves into marketing-driven companies. In the future, customers won't be offered what's convenient to produce, but what they want. The twain still meet only rarely. At our Internet and Financial Services conference in early August 1999, Alan Bauer of Progressive spoke about offering auto insurance policies tailored to the needs of each individual — for example, a policy for infrequent drivers with coverage only when they're in their cars, and a different policy for frequent drivers. Progressive, like other financial services companies, also discussed the not-too-distant prospect of products

Table I–2

Consumer Financial Services Armed Forces

Army	Brokerage	Banking	Credit Cards	Mortgage	Insurance
Attackers	Ameritrade Charles Schwab E*Trade eOffering DLJ*direct* TD Waterhouse Wit Capital	E*Trade/Telebank Net.B@nk Status Factory WingspanBank.com	NextCard	E-Loan Fannie Mae Freddie Mac Iown LoanCity Mortgage.com	Answer Financial CFN Rewards Plus
Defenders	Legg Mason Merrill Lynch PaineWebber DLJ TD Securities	Bank America Bank One Chase Citigroup First Union Wells Fargo	American Express Capital One Citigroup First USA General Electric MBNA Providian	Cendant Mortgage Countrywide Dime General Electric Norwest Mortgage Washington Mutual	AIG Allstate Equitable General Electric Hartford Lincoln National Nationwide Progressive
Arms Dealers	AOL Archipelago Bloomberg Eclipse Trading IMX Intuit Knight/Trimark Microsoft Reuters Yahoo! Other ECNs	AOL CheckFree Intuit Microsoft nFront Sanchez Security First Status Factory Yahoo!	AOL HNC Intuit Microsoft MyPoints VeriSign Yahoo!	AOL Fannie Mae Freddie Mac Microsoft Mortgage.com Priceline.com Yahoo!	Answer Financial Autobytel.com CFN InsurQuote InsureWorld InsWeb Intuit InsureMarket Microsoft Quotesmith Rewards Plus

Source: Morgan Stanley Dean Witter Research

being priced in an auction market — the eBay of financial services, where a driver bids on a specific policy or declares what he/she is willing to pay and receives bids from companies on the coverage they will provide for that amount.

• **Cost reduction opportunities abound.** Using the Web to reduce execution/service costs will remain the best route to competitive success — witness the example of Charles Schwab. We distinguish segments that over the next couple of years will experience margin erosion — brokerage, auto insurance, and credit card services (on a risk-adjusted but not a pretax basis) — from those where we expect price reduction to be offset by cost-cutting opportunities — consumer banking and life insurance. Overall, we expect operating efficiencies to flow from Web distribution. One key outcome we envision*: From the standpoint of both consumers and manufacturers, there won't be any room for unnecessary intermediaries.*

• **First-mover advantage is critical.** But there is much debate over how long that advantage lasts. Indeed, the edge one gets from being first can translate into more "eyeballs," improved economies of scale, better brand development, more high-margin product and/or alternative revenue sources. However, first-mover advantage can dissipate if a new entrant or a re-energized defender flexes some muscle to get into the game. As Eric Dunn, Intuit's chief technology officer, stated at our conference, first-mover advantage is increasingly meaningful where product differentiation is minimal.

• **Innovative thinking will take on new importance.** First, consider that the Web accelerates the time to market almost to nanoseconds by historical standards. And as competition from new entrants ("attackers") that are unburdened by legacy systems, adroit navigation becomes a necessity, not a luxury. Innovation encompasses products as well as delivery. In our opinion, the incumbents ("defenders") must in many cases plan the destruction of their current business models to progress to the next wave of value creation. Table I-2 above lists selected attackers and defenders by sector, along with the "arms dealers," enablers that are providing "ammo" such as turnkey e-commerce platforms and alternative distribution channels (e.g., ECNs).

• **Attackers will take no prisoners.** We are struck by the bold ideas and aggressive execution of a host of newly formed companies with strong management and the eager backing of venture and/or public investors. We believe these firms will drive down margins for the industry by improving pricing transparency and empowering the consumer with education and information, by attacking inefficient links in the distribution chain, and by creating compelling content. There is little doubt in our minds that comparison-shopping and auction-style marketplaces will grow in popularity among consumers. In this new competitive environment, we fear there is still too much complacency among some of the defenders. The established providers must reinvent their core products for Internet distribution, in our view.

• **Many defenders are asleep.** Among the thousands of established financial services firms, it's our sense that the vast majority is not prepared to counter the pricing pressure that will result from Internet-enabled competition. For product manufacturers, such as mortgage lenders and insurers, we think the following strategies can be effective in countering the margin pressure that results from increasing commoditization: product innovation and customization, which make comparison shopping more difficult; a focus on best-in-class service, including streamlined fulfillment, which consumers are willing to pay for; and "channel-agnostic" marketing programs to create some direct Internet traffic and avoid over-reliance on intermediaries for new business. However, we believe that only best-in-breed manufacturers will prosper in an era of Internet transparency.

• **Consolidation should follow naturally.** Increased competition, the need for product breadth, and economies of scale all promise eventual industry consolidation. Unlike the intra-product consolidation that has already occurred in a variety of financial services sub-sectors, we expect the next wave of consolidation to cross product lines. We anticipate a shakeout among the aggregators, some of which may be scooped up by vertical portals (defined below). In addition, with economies of scale increasing in importance, it's reasonable to assume that specialty manufacturers will join forces. Clearly, as regulatory issues are resolved, we anticipate banking and insurance combinations as some vertical portals try to broaden their product offerings by adding "factories" to manufacture financial products.

• We are left with many questions — for example, can "scraping" technology allow websites to consolidate account information from multiple vendors without their

Financial Services and the Internet: An Internet Analyst's Perspective

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As I pondered writing this note, I began reflecting on my experiences in the financial services industry: gaining a competitive edge in the late 1980s by using a cell phone to call in from analysts' meetings; struggling with online connections from a Compaq LTE 286 notebook in 1991 to send research notes to our salesforce/clients; taking Intuit public in 1992 and listening to Scott Cook discuss his rationale for creating the company with partner Tom Proulx — to eliminate the hassle of paper-based checks . . . and, later, laughing when he projected that there would be a very large market for Intuit's easy-to-use QuickBooks accounting software as most Americans believed that General Ledger was a World War II hero; creating my first online stock portfolio on AOL's servers; receiving those first stock quote transmissions on the trusty beeper; calling into our morning research meeting from an airplane; calculating, thanks to Yahoo! Finance, that the market value of Amazon.com was greater than that of Bethlehem Steel; spending ten minutes printing an inch of pages from Yahoo! Finance and marveling that the same information would have taken dozens of folks to compile five years ago and a Wall Street exec probably would have spent $1000-plus a week to have the information delivered to a squad of execs; being unable to find stock prices in the newspaper during a recent summer vacation as I'd become so accustomed to electronic transmissions; finding out that our recently published "European Internet Report" was downloaded from www.ms.com 27,000 times in its first 10 hours of availability.

So you ask, what's my point? My point is that, as these examples show, INFORMATION is extremely important to financial services companies and their customers. And simply nothing does information better, faster, cheaper, than the Internet — 24x7 information at the click of a mouse.

The folks on our Internet research team believe that Internet usage, combined with aggressive moves by new Internet players in financial services, will have profound effects on financial services, and that many traditional players in this highly fragmented industry will painfully lose incremental revenue growth opportunities to a host of aggressive players that may rapidly consolidate the new revenue opportunities in the business.

In our 1997 "Internet Retailing Report," we published a chart called "Web Commerce Sweet Spots" (see Figure 1–1 in this report). We determined that the sweetest spot of all for Web commerce was the insurance/financial services space. In order to determine which retailing segments would ramp fastest on the Web, we looked at the highest-volume areas in the mail-order market. We compared revenue/market opportunity for Web-based business with today's fragmented markets (where selection, information, convenience, and price are especially critical shopper variables, and where shoppers may prefer to do their own legwork if it's easy to do). Clearly, in financial services, selection, information, convenience, and price are critical shopper variables . . . .

Since 1997, the data support the view that Internet-based financial services will be a big deal. In order to determine how people use the Internet, we rely on a variety of sources. But our favorite is America Online. AOL users are, for the most part, mainstream Americans, and AOL discloses key online usage trends. In 1999, AOL's personal finance channel became the most popular channel on its service. AOL users logged 11 million hours of usage per month in the first calendar quarter of 1999 . . . and AOL's customers store more than 10 million stock portfolios on AOL's servers . . . and AOL has 17 million-plus subscribers (and 40 million-plus users) of its online service. These are big numbers.

knowledge or permission? Will "intelligent agents" continuously interact with product manufacturers' underwriting engines, alerting consumers at the optimum time to switch out of current insurance policies or mortgages? Will financial data be shortly available through cell phones, WebTV, and PDAs? And, finally, do current online banking and electronic tax filing adoption rates suggest the inflection point in broad consumer acceptance of online financial services is closer than we thought?

Business Model and Execution

The trends outlined above will shape the evolution of four generic business models: vertical portals, specialty manufacturers, aggregators, and company sites. We believe that two will prevail: the vertical portal (a distribution model) and the specialty manufacturer. With hard work, the aggregator model (another form of distribution) should also bring success, but the company site model may turn out to be the laggard. In Section 2 of this report ("Business Models: On A Crowded Runway, Only a Few Stand Out"), we discuss each model in depth as well as why we believe it will or won't be competitive. The following are our key findings:

- Vertical portals, taking the strategic high ground, will become the ultimate distributors, in our view. We define

Financial Services and the Internet:
An Internet Analyst's Perspective *(continued)*

Mary Meeker

Looking at vertical portals on the Internet (vertical portals are defined as websites/networks that focus on particular categories, like ESPN.com or Sportsline for sports), one finds that a handful of companies in the financial services industry have nabbed market dominance. In early 1999, according to Media Metrix, America Online finance reached 14% of Internet users; Yahoo! Finance, 6%; Intuit's Quicken.com, 5%; E*Trade, 2%; and Schwab.com, 1%.

In addition, a key measure of success for websites is user "stickiness," defined as the average minutes per user per month. It's notable that according to recent Media Metrix data, while eBay maintained its spot as the stickiest site of the Web, with its average user spending 126 minutes on its site per month, E*Trade ranked second with 67 minutes, and Schwab.com ranked ninth with 44 minutes.

Brand-name recognition is key on the Internet, and handfuls of companies have gained first-mover advantage. An April 1999 Opinion Research Corporation survey in the U.S. found that in the financial services space, E*Trade ranked fourth in name recognition for leading e-commerce brands with a recognition level of 30%, compared with 52% for Amazon.com, 47% for priceline.com, and 32% for eBay.

E*Trade and Schwab.com have supported very strong revenue and customer growth momentum. In the second quarter of 1999, E*Trade added a very impressive 332,000 new accounts (up from 233,000 in the first quarter and 132,000 in the fourth quarter of 1998), bringing its customer base to 1.24 million accounts with $26 billion in assets held.

Enough about the data. What's interesting here is that this business is not your father's Oldsmobile. The Internet finance leaders of today 1) are really new companies (you may debate whether to call Schwab new or old); 2) are supporting increasing momentum that's gaining market share; and 3) are playing their growth games under different rules than the incumbents.

The financial services business has long been about gathering customers (and their assets) — note the well-documented successes of American Express with credit cards; Merrill Lynch with its Cash Management Account (CMA); Fidelity with mutual funds for the masses; and Schwab with discount and now online brokerage.

It's our view that a handful of new-ish Internet companies are deftly gathering customers (and their assets). On the Web, the big, early-mover companies tend to get bigger, and once data are input, it's tough for companies to lose customers as long as customer satisfaction remains high. What's more, the history of business has demonstrated that it's easier to move up-market with lots of customers than to move down-market with few customers. And it's our view that, thanks to the Internet-related benefits of networking effects, the leading Internet-based financial services companies will have market share on the Web that exceeds that of their land-based competitors off the Web.

In closing, remember the following:

- Web usage will be huge, and it mimics real life;
- the Web is an awesome distribution vehicle;
- Web brands and user stickiness matter;
- users find the best content and context on the Web; and
- Internet growth is just beginning, but in many industry categories, it's already "game over."

a vertical portal as a website devoted to a particular topic (in this case, financial services) that is a destination for cybersurfers to buy and/or get information on a variety of different products that share the site's focus. A vertical portal's product breadth, user friendliness, and customization generate a loyal customer who visits the site frequently and stays for some time. Specifically, a financial services vertical portal should offer its users a majority of the following functions: the ability to get information about securities and execute trades; receive and pay bills; maintain FDIC insured cash balances (i.e., enjoy security); review all account balances; plan for retirement; purchase life, auto and possibly home insurance; and obtain a mortgage and/or a credit card. We also believe that the foundation for any successful financial portal must be one of two "sticky" applications — brokerage services and/or bill payment and presentment.

- **Aggregators need product depth to stay competitive.** Without it, aggregators could run into problems competing with vertical portals that try to replicate the aggregator model themselves. By pulling together product information and pricing for a sub-industry or two within financial services, aggregators serve as the intermediaries of the Internet world. They are particularly popular with customers shopping for big-ticket items like mortgages and insurance. InsWeb, for example, culls information and prices for auto insurance products. InsWeb receives a referral fee on every lead generated for insurance companies. We believe the most successful aggregators will have recurring revenues (primarily through product renewals) and good customer service. Ultimately, the aggregator will also need to form strong relationships with manufacturers that can offer customized and specially priced products.

- **Specialty manufacturers must deliver a superior product to aggregators and/or vertical portals as well as directly to consumers.** Therefore, strong alliances or partnerships with distributors are critical to long-term survival in the cybercentric financial services world ahead. As vertical portals and aggregators start to siphon away customers from traditional branch-based delivery systems, many manufacturers of financial products will find themselves struggling for new business in a single, broad, ultra-competitive market. In this environment, we believe that only the best-in-breed will flourish. Those manufacturers that have truly superior price, service, and ability to customize products — and can get the word out — will also likely attract some direct traffic to their own sites.

- **Company sites risk losing a current competitive advantage if they don't evolve to the next model.** We reserve the term "company site" for manufacturers that do little to embrace the Internet. The company site is a place where one goes to get only the products produced by that firm. It is a model that still works well today. That's because the competition from aggregators and vertical portals has yet to reach a crescendo. However, we expect Yahoo! Finance, Intuit, AOL Finance, and others (e.g., Citibank's Citi f/i) to raise the bar over which company sites must jump to compete effectively. Their disadvantage is the lack of open architecture that would enable them to offer products other than their own as well as the online functionality that is accompanying product breadth among the vertical portals. We firmly believe that a company can successfully move from one business model to the next — in fact, we believe Schwab is an example of a firm that migrated from a company site model to a vertical portal.

And the Winners Are…

In Section 3, "The ABCs of Winning Online," we identify the prerequisites for success in each model and which companies have them. We also rate the companies in our study according to these criteria, boiling the scores down to each company's "NetVantage" (a term we borrow from our business services analyst, David Togut). We see rough sledding ahead for financial services companies as the defenders (traditional model companies) meet attackers (new entrants) coming from many directions. Neither the attackers nor the defenders necessarily have all the right weapons, and each knows some nooks and crannies of the competitive landscape that the others do not. Not all will emerge victorious, but the winners may come from either the defender or the attacker camp, provided that they deftly navigate the changes in the way consumers access financial services.

The winners in financial services may not necessarily be traditional financial services companies. Watch out for general portals — in particular AOL and Yahoo! — that already have many of the keys to success on the Internet and have been operating under the "new" business model since their inception. The Internet has de-coupled manufacturing from distribution; for example, it's no longer necessary for a consumer to buy an insurance policy from an insurance company. We note that the most popular area on AOL is the finance channel: Consumers are already going to AOL Finance for financial products. It is irrelevant to the Web consumer that AOL doesn't own the distributors or manufacturers of these products.

We think it won't be long before the general portals have a foothold in bill payment and presentment. They have also had greater success than any of the financial services sites in achieving alternative sources of revenue. Finally, their non-financial channels offer fertile ground for event-driven marketing — for example, marketing life insurance on parenting and wedding channels, auto insurance on auto sites, and mortgages on real estate sites. Moreover, the general portals' personal calendars and e-mail could be a "killer app" for bill payment and presentment.

How can a defending financial institution compete with the general portals' prowess? Selected surveys say that consumers are more likely to buy financial products from financial institutions than from technology companies. The incumbents may therefore have a leg up for now, but how well they capitalize on their brands and trust will determine their future success. We note that specialty manufacturers that partner with AOL also are offering their products through some of the financial services defenders. For example, WingspanBank uses DLJ*direct* for brokerage, InsWeb for insurance and E-LOAN for mortgages.

It's our sense that investors should be increasingly selective and at most market weight financial services as a group. Not only does the Internet raise serious competitive issues for most financial firms (which may not yet be discounted in the stock prices), but the industry is also benefiting from an ideal credit environment, which can't get any better. Any Fed tightenings can't help either. The Morgan Stanley Dean Witter Internet Financial Services portfolio contains only 7 financial stocks (and 3 technology companies) out of the 100+ financial stocks the team covers.

Among the vertical portals, we believe Schwab, Citibank, Bank One, American Express, Intuit, AOL, E*Trade, and Yahoo! are or will be among the standouts long term. Among specialty manufacturers, Countrywide is a clear leader in the mortgage arena, and Progressive is a leader in auto insurance. We believe that Intuit's QuickenMortgage and InsureMarket are leaders in their respective areas among the aggregators.

We recommend the following portfolio of expected winners for investors with a 2–3-year horizon (among the companies we currently cover): America Online, American Express, Bank One, Citigroup, Countrywide, Fannie Mae, Freddie Mac, Intuit, Schwab, and Yahoo! (Table I–3).

Additionally, companies that are certainly worth keeping a close eye on include: Answer Financial, CheckFree, DLJ*direct*, Emergent Advisors, E*Trade, Fidelity, LoanCity, Marshall & Ilsley, Merrill Lynch, Progressive, Providian, Sanchez Computer, Security First, and Wells Fargo.

Table I-3

MSDW's Recommended Internet Financial Services Long-Term Portfolio

						Earnings Per Share		
	Ticker	Price (a)	Rating	Internet Model	NetVantage Score	1998	1999E	2000E
America Online	AOL	$84.75	Strong Buy	Vertical Portal	4.3	$0.05	$0.34	$0.60
American Express	AXP	123.06	Strong Buy	Vertical Portal	4.1	4.76	5.41	6.16
Bank One	ONE	51.56	Strong Buy	Vertical Portal	4.5	3.40	3.95	4.55
Citigroup	C	42.50	Outperform	Vertical Portal	4.0	1.77	2.80	3.23
Countrywide	CCR	34.44	Strong Buy	Specialty Mfr	3.1	3.29*	3.75*	4.32*
Fannie Mae	FNM	63.81	Strong Buy	Specialty Mfr	N/A	3.23	3.68	4.25
Freddie Mac	FRE	53.00	Strong Buy	Specialty Mfr	N/A	2.31	2.84	3.29
Intuit	INTU	74.81	Outperform	Vertical Portal	4.3 (b)	0.90	1.30	1.54
Schwab	SCH	40.19	Outperform	Vertical Portal	4.6	0.42	0.70	0.85
Yahoo!	YHOO	126.94	Outperform	Vertical Portal	4.3 (c)	0.04	0.34	0.54

Due to law and/or Morgan Stanley Dean Witter policy, certain issuers proposing to be in, or currently in Registration, are precluded from inclusion in this table or report.

*NetVantage score is on the basis of 1 (lowest) to 5 (highest), grading companies on the characteristics we believe are most important to the Internet strategy each is pursuing (details in Section 3 of this report). N/A = not available. *Fiscal year ends in February of following calendar year.*

(a) As of the close, 8/6/99.
(b) Score for Intuit's Quicken.com vertical portal.
(c) Score for Yahoo! Finance vertical portal.

Source: Morgan Stanley Dean Witter Research

Section 1: Creative Destruction in the Value Chain

Overview

The Internet has already had a seismic effect on the way the retail financial services industry conducts business. It has hit some financial services sub-sectors (securities brokerage) harder than others (insurance) in the early going, and it promises to permanently alter the way customers perceive value, how value is delivered, and the profitability it can produce.

In this section, we analyze key sub-sectors of retail financial services to understand: (1) how changes in product distribution will alter consumers' perception of value, (2) how companies generate fees and profits today, and (3) what changes in business models are required to adapt to new competitive threats. In general, we conclude that consumer financial services will experience margin pressure in aggregate and that the impact will be greatest on securities brokers.

As one would expect, the products most affected to date have been relatively commoditized by the Internet and are suffering from the pricing transparency the Internet affords consumers. Less affected to date are life insurance and annuity products, which we believe are less adaptable to online commerce because of their complexity. Moreover, we believe companies on the leading edge have already begun to alter their business strategies. Some of the forward thinkers we focus on are Charles Schwab, Countrywide, Citibank, Bank One, and American Express.

Our value-chain analysis divides companies into two traditional business models: distributors (both vertical portals and aggregators) and manufacturers (although banks tend to straddle this division more than most financial service providers). In general, the distributors' strategies — pursuing value-added initiatives — are likely to be very different from those of the manufacturers — controlling costs and finding economies of scale.

We see several forces that are altering the value chain:

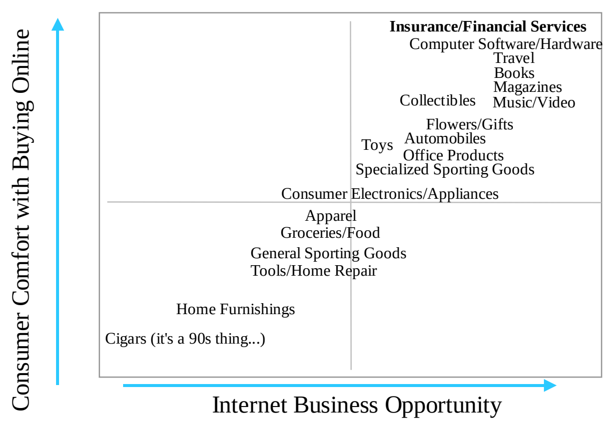
- ***Vertical portals may be the distributors of choice.*** Ultimately, we think that consumers are looking for the ability to bundle the products they want in a fashion unique to each individual, and that the Web will provide this capability. We call this process "mass customization." And we believe that vertical portals will do the best job of providing the consumer empowerment that the Internet makes possible. Companies across various sectors, be they banks, brokers, credit card companies, or Internet portals, have the wherewithal, dexterity, and management vision to build these vertical portals. Such sites will combine convenience, choice (i.e., a wide range of products), a high level of service, the latest technology, low pricing, and brand. Accordingly, vertical portals may have the most dramatic impact on the current value chain.

Not only will vertical portals have a profound effect on traditional distribution networks, but because many vertical portals will have production capabilities, they may also pose a threat to specialty manufacturers that choose to downplay the significance of the Internet channel. Additionally, the vertical portals' ability to generate incremental high-margin revenues from advertising may be an important distinction between the distributor and the manufacturer.

- ***Disintermediation is accelerating.*** As sophisticated consumers are increasingly able to educate themselves online, they are becoming more reluctant to pay a premium to get the same information from a middleman. Most insurance

Figure 1–1

Web Commerce Sweet Spots: Internet Opportunities for Various Retail Categories



Source: Morgan Stanley Dean Witter Research

aggregator websites and online portals are able to answer almost any question regarding auto insurance, and are even able to offer advice on coverage based on several factors. As such, aggregator sites and portals are poised to replace traditional intermediaries. With the ability to apply for financial services online at discounted rates, fewer consumers will need the services of agents in the future. Clearly, the self-directed private investment client believes this is true for investment services.

• ***Price transparency will exert the greatest pressure on margins, but could be at least partly offset by cost efficiency.*** Across the board, consumers will be able to more easily compare prices and features (through aggregator sites or financial portals). On the other hand, companies should be able to generate strong volume trends and radical cost savings from the efficiencies generated by Web-based interaction with their customers. Companies that are leaders in using the Internet to cut costs may be able to build market share rapidly through lower prices, gaining the scale to offset margin pressure (i.e., Schwab).

• ***Brand still can provide an edge.*** While increased transparency puts pressure on prices and margins, the companies that consumers trust the most (often with strong brands) may still be able to command a slight premium. Moreover, if the company site model is to work at all, it will likely be for the companies with greatest brand recognition. Nevertheless, we believe vertical portals and aggregators have a better chance to reach consumers. Therefore, we expect specialty manufacturers to use these new channels to reach consumers and not to assume that consumers will bypass distributors and come to them directly.

In the following pages, we outline the changes in the value chain that we see on the horizon for consumer banking, brokers, life insurers, auto insurers, mortgage lenders, and credit card issuers. In each section we forecast the volume of Web business two to five years from now and how much margins may erode along the way. Then we project changes in each sub-sector's value chain as old ways of doing business are pushed aside by the power of new and stronger models.

Consumer Banking

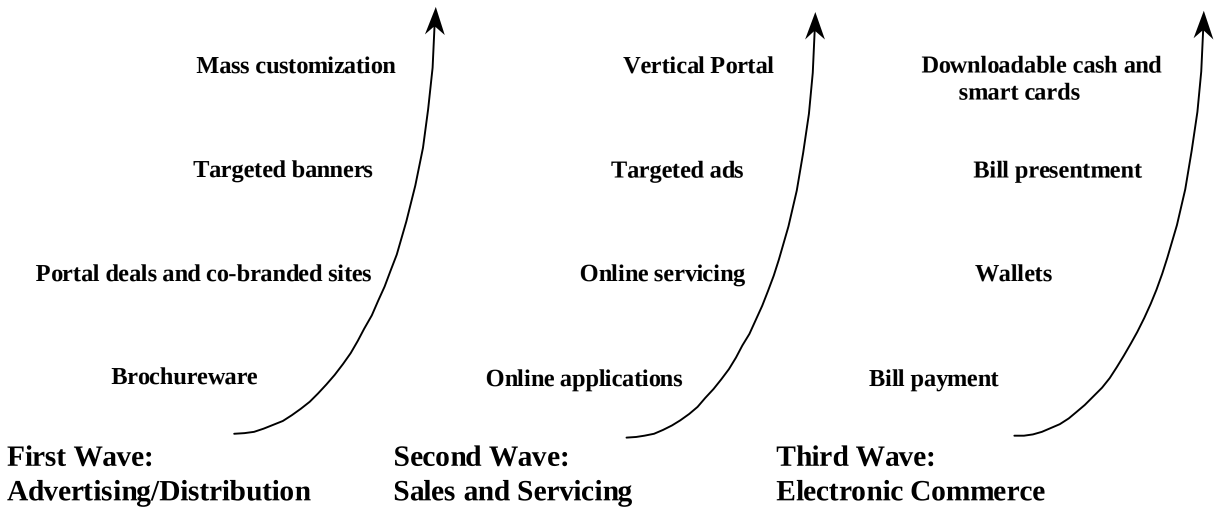
The Morgan Stanley Dean Witter Internet research team believes that the Web is more important for retail financial services than for many other industries. Aside from securities brokerage, in no sector is this more apparent than in retail banking. Illustrating the speed with which the Internet is affecting consumer banking, a recent study by Gomez Advisors finds that 39 of the top 100 banks in the U.S. offer online services, up from only 17 last year. All of the 20 largest consumer banks now offer Internet services, and all but one of the 29 banks we cover offer online services.

We estimate that the consumer banking online market will reach \$75 billion in revenues by 2001 and \$235 billion by 2003. That's up from less than \$24 billion in 1998. In the next two to three years, we anticipate that 20% of online U.S. households will transact some form of banking over the Internet, up from 7% in 1998. At BankBoston, which went online in 1995, 21% of the customer base is using one or more of its online service offerings, and the company estimates that its online consumer base is growing at 50% per annum.

Both prices and costs should come down as consumers migrate to online services. We estimate that the operating efficiencies from online account servicing will reduce costs by 15–25% relative to regular accounts, but expect some can achieve even greater savings. Meanwhile, the competition for customers outside the branch "footprint" could put pressure on pricing. We expect that banks trying to lure consumers away from their current banks will entice them with offers such as higher deposit rates, which will lower overall net revenue for online accounts by 10–15%. The net effect on pre-tax profits at the midpoints of these ranges would be negligible, but the lower and upper bounds suggest outcomes ranging from declines of 12% to increases of 22%. First movers that provide the highest level of service and innovative product offerings may have some margin leverage initially, but this should deteriorate as competition increases.

Figure 1–2

Waves of Adoption: Financial Services and the Internet



Source: Morgan Stanley Dean Witter Research

Under the new business model, the Internet expands consumer banking's reach . . . Banks are now able to compete for customers outside their branch footprints. Although they haven't yet done so on a large scale, leading banks, online brokers, and specialty finance companies targeting the same market (i.e., Citibank, Schwab, and American Express) are taking steps to lure high-value customers, such as refunding ATM charges. This is a clear example of the Internet's impact on financial services providers' value proposition. It also illustrates the potential of technology to extend companies' reach, enabling them to tap into attractive demographics. An offline consumer may pick a bank based on its ATM proximity, convenience, and product fees, while the online customer knows he/she can use any ATM with no surcharge. **We believe that a small group of large, technologically sophisticated, and nationally branded banks will have the opportunity to significantly increase the size and quality of their customer base through the Internet.**

. . . But the Internet requires banks to expand the range of their product and service offerings. Aside from offering online accounts, banks like Wells Fargo, Citibank, and Bank One are tailoring specific products for the Internet, like online bill presentment or credit cards with instant online approval. They are also enhancing their level of service through online content. Customers are able to screen products like CDs and credit cards, access investment research, increasingly obtain personal financial advice, and trade. Through their online presence, banks and brokers can add substantial value for the banking customer, in our view. **Since today's value-added product could easily be tomorrow's commodity, success may depend more on product innovation than in the past.**

These changes could bode ill for branch-based banks that choose not to embrace new opportunities. Their asset bases are likely to diminish as customers (potentially highly profitable ones) transfer accounts to banks that offer the convenience of online access, one-stop shopping, and better deposit rates. As the market share losers' account bases dry up and their pricing comes under pressure, profits will likely be squeezed. Some may offset this trend in the short term by offering a broader range of products (e.g., investment services) through their branch networks, but ultimately, we believe, they will have to provide some form of online offering in order to compete.

Table 1–1

Value Chain Changes: Consumer Banking

Online Financial Services Revenues ($ Billions)			Margin Outlook					
1998E	2003E	Implied CAGR	Price Change	Cost Change	Margin Change	Old Model	New Model	Beneficiaries
$24	$235	58%	Down 10-15%	Down 15-25%	Up	• Confined footprint • Limited product line • Branch required for all but cash disbursement or deposits • Revenues generated through margin (loans vs. deposits) and fees on checking & cards • Profits dictated by margin, fees, credit quality, cost control	• Unlimited footprint • Product breadth • Greater competition • Lower margin, checking, and card fees • Reduced costs with virtual branch • Maximize cross-selling to help offset lower fees	• Largest banks • Innovators • Smaller banks that develop the right alliances

Source: Morgan Stanley Dean Witter Research

IDC estimates that some 7,200 U.S. banks and credit unions will purchase Internet banking applications this year. Companies like Security First, Online Resources, and Marshall & Ilsley Data Services, which offer Internet banking by way of a cost-effective, rapidly installed, scalable solution, are enabling institutions to keep pace with their competitors in some areas. However, the larger banks are clearly ahead of the curve in developing and offering leading-edge functionality. A defensive strategy may not be enough to keep customers happy: we believe the more difficult task that small banks face is competing on the basis of product breadth. Small and mid-sized banks must overcome this obstacle by moving quickly to establish strategic alliances and creative partnerships, offering best-in-breed products and superior customer service, and developing data-mining capabilities.

The value of the branch will decrease but won't drop to zero. We think multi-tiered distribution will be even more important in the future. Nevertheless, online banks such as Net.B@nk and Telebank may help dispel the notion that physical branches are an essential link in the value chain for consumers. These banks are trying to lure customers with offers of higher-interest checking, for example. Without the overhead of a bricks-and-mortar retail network, these companies' operating costs are greatly reduced, allowing them to offer better pricing on commodity items like checking. In 1998, Net.B@nk's and Telebank's SG&A expenses were 10% and 8% of net revenues, respectively. By comparison, those numbers were 25% and 26% for Bank One and Chase. What online banks lose in margin from deposit and loan spreads — average traditional bank net interest margins are 4.1% versus approximately 1.0% for online banks — is balanced by a lower cost structure.

Our vision of the future for consumer banking is the vertical portal. By definition, vertical portals will create places where consumers can attend to a broad array of financial chores. Bill presentment should become ubiquitous and online trading will be offered alongside insurance and mortgage refinancing applications. Certain institutions, like Citigroup and Bank One, are already using their size, brand, technology, product breadth, and distribution capabilities to offer these services and build early versions of the vertical portal. In fact, Bank One's WingspanBank.com has partnered with InsWeb to enable consumers to search the site for the best insurance product, E-LOAN to find the best mortgage rates, and DLJ*direct* for private-label brokerage services.

INSERT LANDSCAPE TABLE 1–2 HERE

Table 1-3

Online Functionality: Banks

Company Company	Bill Payment	Bill Presentment	Checking Account: Monthly Service Charge	Online Retail Brokerage	Cost per Trade for Transactions up to 1,000 Shares, or as Noted
AmSouth	Yes	No	Free	Yes	NA
Bank of America	Yes	No	$6 with balance >$500	Yes	$24.95
Bank of New York	Yes	No	Free **	No	NA
Bank One	Yes	Yes	$5; or $0 with direct deposit	Yes	From $19.95
BankBoston	Yes	No	$2.50 - $8.50	No	NA
Chase	Yes	3Q99E	Free **; otherwise $9.50 or $25	Yes	$5 for up to 5,000 shares with Brown & Co.
Citigroup	Yes	No	Free **	Yes	$19.95
Comerica	Yes	No	NA	Yes	$25 for up to 1,250 shares
Commerce Bancshares	Yes	No	Free	No	NA
First American	Yes	No	$0 - $15	No	NA
First Union	Yes	3Q99E	$0 - $15	Yes	$25
First Virginia	Yes	No	$0 - $15	Yes	$30
Firstar	Yes	No	$0, $1, $2, or $5	No	NA
FirstMerit	No	No	Free	No	NA
Fleet Financial	Yes	No	Free **; or low monthly fee	Yes	$14.95 for up to 5,000 shares with QuickWay.net
Hibernia	Yes	No	$0 - $10; Free **	No	NA
Huntington	Yes	No	$0 - $10; Free **	Not yet	NA
KeyCorp	Yes	No	Free **	No	NA
Marshall & Ilsley	Yes	No	NA	Yes	$30 + 1.4% of principal for transactions up to $4,000
Mellon Bank	Yes	No	Free **	Yes	NA
Mercantile Bancorp.	Yes	No	NA	No	NA
National City	Yes	No	Free **; otherwise $6 - $8	No	NA
National Commerce	Yes	No	Free **; otherwise $4 - $10	No	NA
Old Kent	Yes	No	NA	Yes	NA
PNC Bank	Yes	No	Free **; or low monthly fee	No	NA
SunTrust	Yes	No	Fee - No details	No	NA
Telebank	Yes	No	$0 or $5	No	NA
U. S. Bancorp	Yes	No	$0 - $15	Yes	$38 + 0.7% of principal for transactions up to $2,501
Union Planters	Yes	No	Free **; otherwise $3 - $12	No	NA
UnionBanCal	Yes	No	$0 - $7	Yes	$25 for trades up to 1,250 shares
Wachovia	Yes	No	$0 - $25	Yes	$29.95 for up to 2,000 shares
Wells Fargo	Yes	3Q99E	$0 - $11; Free **	Yes	$29.95
WingspanBank	Yes	No	Free	Yes	$19.95

*****Free:** When minimum balances are met.*

In many respects, Schwab has already transformed itself from a broker to a financial service vertical portal. AOL Finance, MSN's MoneyCentral, Yahoo! Finance, and Excite's Money & Investing (powered by Intuit/Quicken) are closing in on this model by aggregating access to a range of different products and services. Revenues will be much larger for the successful vertical portals because they'll be able to cross-sell a broader range of products. Moreover, we believe that entities with strong data-mining and target marketing capabilities will also collect very profitable advertising dollars. Again, because customers will expect better pricing from an online provider, profitability will be driven by cost control and scale.

Table 1-3 *(continued)*

Online Functionality: Banks

Company	Mortgage Loans *	Home Equity Loans *	Credit Cards *	Online Research	Advertising for Other Companies
AmSouth	No	Apply	Apply	Yes	Yes - MSFT Money
Bank of America	No	Apply	Apply	Yes	No
Bank of New York	No	No	No	No	No
Bank One	Apply	Approval	Apply	Yes	Yes - MSFT Money, INTU
BankBoston	No	No	No	No	No
Chase	Apply	No	Apply	Yes	No
Citigroup	Start appl. O/L	No	Apply	Yes	No
Comerica	No	No	No	No	Yes - MSFT Money, INTU
Commerce Bancshares	No	No	Apply	No	No
First American	Apply	Apply	Apply	Yes	No
First Union	Request call O/L	Request call O/L	Apply	Yes	No
First Virginia	No	Apply	Request info O/L	Yes	No
Firstar	No	Apply	Apply	Yes	No
FirstMerit	No	No	No	Yes	No
Fleet Financial	Request info O/L	Request info O/L	No	Yes	No
Hibernia	No	No	No	Yes	No
Huntington	Apply	No	Apply	Yes	No
KeyCorp	No	Apply	Apply	Yes	Yes - Online Shopping Companies
Marshall & Ilsley	Apply / Approval	No	Download	Yes	No
Mellon Bank	Download	No	Apply	Yes	Yes - TurboTax, Hartford, MSFT Money, INTU
Mercantile Bancorp.	No	No	Download	No	No
National City	No	No	Download	Yes	No
National Commerce	No	Apply	No	No	No
Old Kent	Start appl. O/L	No	No	No	No
PNC Bank	No	Apply	Apply	No	Yes - Barnes & Noble
SunTrust	Apply	Apply	Apply	No	Yes - TurboTax, INTU
Telebank	Start appl. O/L	Start appl. O/L	No	Yes	No
U. S. Bancorp	No	Apply	Apply	Yes	Yes - Microsoft Money, INTU
Union Planters	No	No	No	No	No
UnionBanCal	O/L appl. avail. soon	No	No	No	Yes - MSFT Money, INTU
Wachovia	Apply / Approval	No	Apply	Yes	Yes - TurboTax
Wells Fargo	No	Apply / Approval	Apply	Yes	No
WingspanBank	Apply	Apply / Approval	Download	Yes	No

***Apply** = Apply online; **Approval** = Receive an approval within hours; **Download** = Download application form and mail / fax it.*

Source: Company Websites and Morgan Stanley Dean Witter Research

Table 1-4

Progress to Date: Banks

Company	**Ticker**	**Reach (Media Metrix)**	**Stickiness (min.) (Media Metrix)**	**Online Accounts (MSDW Estimates)**	**Market Share Among Online Chargers**
First USA	—	2.9%	8.6	1,000,000	25%
Wells Fargo	WFC	1.5%	23.3	1,000,000	NA
Citibank	C	0.9%	16.2	1,185,000	13%
Bank of America	BAC	0.7%	18.9	1,500,000	4%
Bank One	ONE	0.6%	6.7	375,000	NA
First Union	FTU	0.6%	20.2	1,000,000	NA

Source: Media Metrix, Morgan Stanley Dean Witter Research

Asset Managers and Securities Brokers

Asset Managers

Slowing mutual fund flows, the introduction of low-priced Internet stock trading, and a changing competitive landscape are roiling mutual fund industry executives. Previously unimaginable questions are now being given very serious consideration — for example, does Fidelity, the nation's largest fund company, need to do more to build a "financial services" brand as opposed to a mutual fund brand in the era of one-stop shopping? Is your firm aligned with a distributor that could eventually be disintermediated?

For the fund industry, rapid adoption of the Internet by retail investors will mean: (1) better products must be delivered; (2) consumer segmentation will be required; and (3) new alliances and joint ventures will emerge (potentially bypassing traditional distributors).

We expect margins to fall, although we don't expect revenue growth to trend down dramatically as a result of the Internet. Under the old value chain, asset managers drove revenues and profits by taking in premium fees (investment management and loads) almost regardless of performance. Most costs were variable, leaving profit margins relatively stable and profit dollars ebbing and flowing with assets under management.

Under the new regime, marketing, performance, and distribution take on much greater importance. But technology and the advent of "eAdvice" have shifted the power away from the financial institution toward the end-user — in this case, the retail customer. This shift began prior to the widespread adoption of the Internet but has clearly accelerated. Customers are empowered, and though not all investors will opt for self-direction, a growing percentage will demand that the financial intermediary deliver a better value proposition as pricing becomes more transparent. Therefore, the new way to create value must make performance paramount. Equally critical, as funds' asset accumulation functions have been disintermediated by some dominant distributors, acquisition costs have risen. Fund managers must now share the bulk, not just a small portion, of their load revenues *and their investment management results* with their distributors. As if that isn't enough, in the process managers have clearly lost direct contact with their investors.

The competitive landscape is changing more quickly than ever before, and bureaucracy will lead to a loss of market share for certain traditional players. In our view, this is one of the biggest issues that the "establishment" in financial services now faces. The reality is that there can be just too many internal factions pulling senior executives in too many directions to implement some of the sweeping changes that are required. By contrast, many Internet-based firms are nimble, have better technology, and are learning more about customer behavior than their traditional competitors (read real-time data). For example, eBay can now get the same amount of customer information in four hours via a Web survey that it takes 9–12 months for traditional retailers to accumulate through "established" feedback channels such as focus groups. Raising the ante is the fact that, after getting the feedback, Internet players can rapidly make changes to their business model since they lack the infrastructure and channel conflict issues that are now prevalent at certain banks, broker-dealers, and mutual fund companies.

Market segmentation will be key. For firms that do not know (1) what their target markets are and (2) what features distinguish them from their peers (i.e., if a firm can't break away from the pack, why should an investor pay premium prices), the road ahead is likely to be bumpy. Why? Because the Internet will accelerate the trend toward mediocre content providers having their best customers poached. In the end, it will be about delivering superior value in an experience that each investor finds enjoyable/satisfying.

The power of the Internet also lies in cost avoidance. Specifically, there is a significant opportunity to migrate customers and brokers online to perform services such as buying and selling shares, account maintenance, and statement requests. Already, 37% of all Vanguard shareholders use the Web to get information or make a transaction, up from 20% a year ago. In our view, this is an area where many fund companies, particularly on the load side, have been slow to react because they are in a "wait and see mode" concerning how their traditional distributors adapt to the Internet. However, this will change within 24 months, in our view, and represents a significant opportunity.

The fund business is changing as we move from a state of hyper growth to growth. Accelerating this change is technology, which has raised consumer awareness. However, it has also increased the demand for solutions-oriented services — someone or something that can help the average investor navigate through all the "noise" (i.e., information overload) that is now so prevalent in retail financial services.

In the end, not all asset management companies will succeed. There is just too much capacity, and operating returns have been too good for too long (market appreciation, not net flows, accounted for 58–68% of the growth in long-term mutual fund assets from 1995–1998). In our view, recent prosperity has made certain companies vulnerable to the structural changes that are now taking place in retail financial services. That said, for firms that have built a "culture of excellence" over the years, have segmented their customers efficiently, built brand, and delivered performance, the ongoing opportunities to take market share have never been more significant.

Securities Brokers

In the area of personal finance, no sector has felt the effects of the Internet to date more than the securities brokerage industry. We estimate that in 1999, approximately 38% of retail trades will be executed online, up from an estimated 27% in 1998. A report from Gomez Advisors estimates that 3 million Web brokerage accounts were opened last year, supporting the twofold increase in the number of online brokerage houses, to more than 140.

We expect overall retail brokerage revenues to reach $73 billion by 2003, up from $47 billion in 1998. As more investors come to realize the convenience and value of online accounts, we expect to see the size of the Internet sector continue to swell.

- We now estimate that by 2003 there will be approximately 44 million online accounts, representing almost half of total online accounts, versus 5.7 million, or 9% of total retail accounts, in 1998. Prior to our August conference, we had used a more conservative estimate of 37% for 2003.

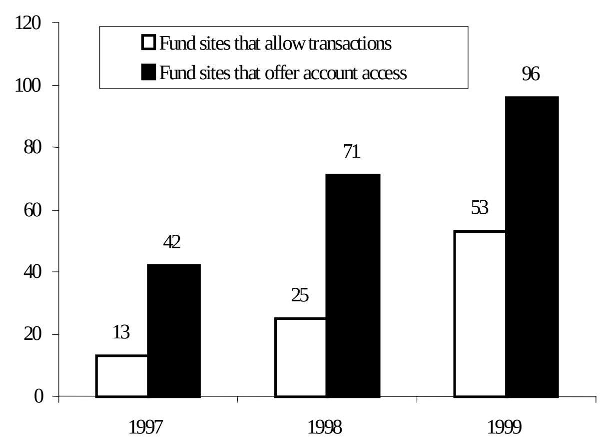
- Online revenues should grow from our estimated $2–3 billion in 1998 to $30–35 billion by 2003.

- We believe that online trading could account for between one-half and three-quarters of all retail trades by the year 2003, up from 27% in 1998.

- We believe that the increase in popularity of online trading will result in sharp price declines, driving commission revenue downward (Table 1–5).

Figure 1-3

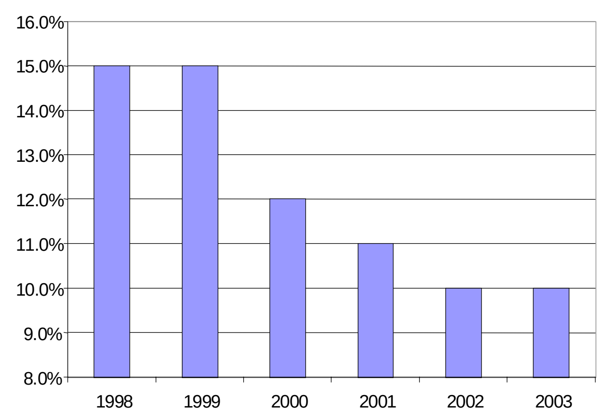
Mutual Fund Companies on the Web



Source: McGladrey & Pullen, Morgan Stanley Dean Witter Research

Figure 1–4

Brokers' Pretax Margin



Source: Morgan Stanley Dean Witter Research Estimates

In our base case scenario, the growth in "asset accumulation" revenue, or fee and investment income, will eventually offset eroding commission margins and pressure on profits from trading (ECNs, decimalization, decline in payment for order flow), and stabilize overall industry revenues by 2003.

We expect to see brokers' margins come down initially, though we note that our forecasts compare with peak levels (i.e., returns have surged in the latest bull market). The growth in operating costs should slow as online activity increases, but both widespread price reductions and spending on technology should offset these efficiencies. **We estimate that average trading prices for the industry as a whole will come down approximately 70% in the next five years, from $77 to $25, pressuring margins at least over the near term.** We believe that in the long run, margins will remain most favorable for the industry leaders that will benefit from higher throughput, deeper client relationships, and greater back office efficiencies. Because of the large variation in transaction costs across firms and mediums, smaller players that lack the scale to keep up with these changes will suffer, in our view.

Table 1–5

Retail Brokerage Industry — Base Case Economic Income Statement

($ Billions)

	1998	1999	2000	2001	2002	2003
Revenues						
Commission Revenue	16.9	19.0	17.7	16.0	14.4	12.8
Principal trans. / Pmt for order flow	5.9	6.7	5.7	4.7	3.8	3.1
Net Investment Income	11.1	11.3	11.2	11.1	11.1	10.8
Mutual Fund Fee Income	9.2	11.1	13.1	15.3	17.2	19.4
Advisory Fee income	3.8	5.4	9.2	14.3	19.5	25.7
Advertising Revenue	0.0	0.0	0.1	0.2	0.4	0.8
Total Revenues	46.9	53.5	57.1	61.7	66.4	72.5
% Change		*14%*	*7%*	*8%*	*8%*	*9%*
Expenses						
Transaction Costs	3.8	4.7	5.2	5.5	5.7	5.7
Compensation	25.8	29.4	29.7	30.8	31.9	33.3
Other Expenses	10.3	11.3	15.2	18.9	22.1	25.9
Total Expenses	39.9	45.4	50.1	55.2	59.6	64.9
% Change		*14%*	*10%*	*10%*	*8%*	*9%*
Pre-tax profit						
Total pre-tax profit	6.9	8.1	7.0	6.5	6.8	7.6
% Change		*16%*	*-13%*	*-7%*	*5%*	*12%*
Summary Statistics						
Pre-tax Margin	15%	15%	12%	11%	10%	10%
"Transaction" Revenues*	22.8	25.6	23.4	20.7	18.2	15.9
% Change		*12%*	*-9%*	*-11%*	*-12%*	*-13%*
"Asset Accumulation" Revenues	24.1	27.8	33.5	40.7	47.8	55.8
% Change		*15%*	*21%*	*21%*	*17%*	*17%*

** Defined as commissions, principal transactions and payment for order flow*

Source: Morgan Stanley Dean Witter Research

Table 1–6

Value Chain Changes: Retail Brokerage

Online Financial Services Revenues ($ Billions)			Margin Outlook					
1998E	2003E	Implied CAGR	Price Change	Cost Change	Margin Change	Old Model	New Model	Beneficiaries
$2-3	$30-35	67%	Down 70%	Down less than prices	Down	• Trade execution and advice bundled together	• Unbundled product	• Product rich companies
						• Few self-directed accounts	• Mass customization	• Asset accumulators
						• Closed architecture, sold primarily proprietary product	• Open architecture	• Companies with international penetration
						• Product-driven model	• Marketing- and consumer-driven model	• Firms that marry technology and advice
						• Branch system	• Multi-tiered distribution	
						• Revenues from trading and administration fees	• Revenues from fees on assets under administration	
						• Profits dictated by trading volume and account growth	• Profits dictated by asset accumulation success	

Source: Morgan Stanley Dean Witter Research

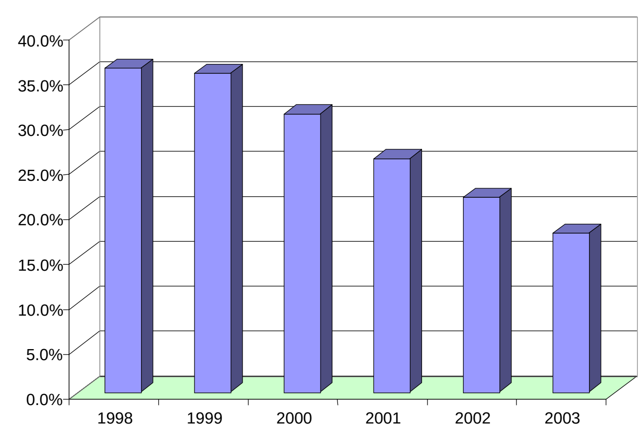
The cost advantage of virtual distribution will increase with time. Figure 1–6 illustrates the large and increasing disparity between the cost of physically distributing financial services and the cost of doing so electronically. In the chart, "physical costs" are related to employee compensation (in particular, brokers' salaries) as well as the cost of maintaining a physical branch structure. These costs are expected to rise at least as fast as the overall inflation rate. On the other hand, "virtual costs" (i.e., the cost of electronic distribution) are dictated by the cost of computing and communication costs, which are declining exponentially with time. This is creating a widening gap between the cost of distributing a financial product electronically and the cost of doing so through the traditional broker system. Paralleling this is the decline in the "online premium," or the intangible costs incurred by online consumers (e.g., the time required for online self-education and research).

The implications of the chart are clear — traditional brokers must reduce costs and improve service and advice, or risk losing share to online financial service providers. In the short run, we expect both brokers' salaries and traditional firms' profit margins to suffer as they fight to maintain market share versus their online competitors. In the long run, we believe that continued demand for advice, improvements in service, and a more rational cost structure will help stabilize margins for the traditional players.

If our forecasts of increased competition throughout the retail brokerage arena are accurate, the earnings streams of the pure-play online firms are also at risk. Indeed, with low-cost online trading being offered by virtually all financial intermediaries, firms such as Ameritrade can no longer use price as a distinguishing feature. Moreo-

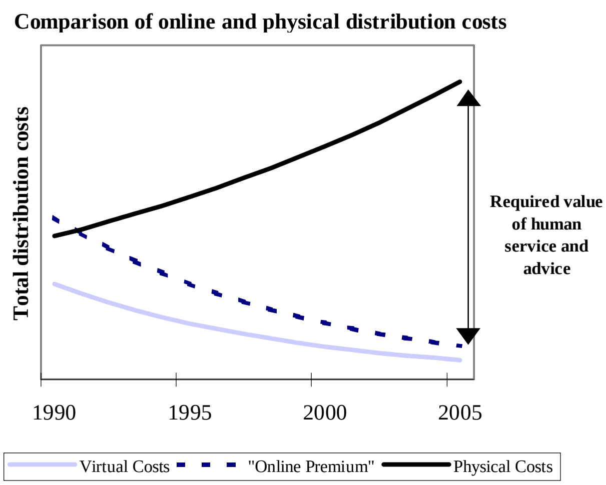
Figure 1–5

Percentage of Brokers' Revenue from Commissions



Source: Morgan Stanley Dean Witter Research Estimates

Figure 1–6
Comparison of Brokers' Online And Physical Distribution Costs



Source: John Ginarlis — CSC, Morgan Stanley Dean Witter Research

ver, these firms are now being forced to compete against established broker-dealers on products and services, including IPOs, equity research, and mutual fund offerings. Separately, with trading now largely a commodity, it is our view that significant scale (i.e., 1.5 million customers and/or $30 billion in client assets) will be required by year-end 1999 to remain competitive. And from a financial perspective, there is the risk of capital markets becoming unfriendly, forcing many of the pure online players to significantly cut back on their aggressive marketing campaigns, which could dramatically slow account and asset growth. In the end, we believe that there will be fewer than a dozen pure online trading firms, down from more than 140 in 2Q99.

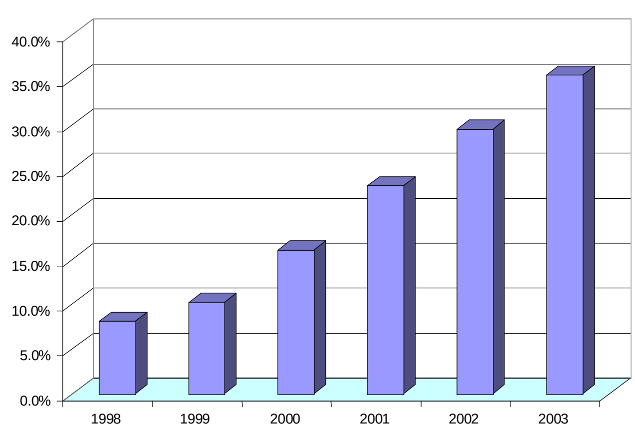
We believe that margins and revenue growth will bounce back for Internet-savvy companies. But for the industry as a whole, we expect margins to flatten out at levels below those prevailing today. This trend should be increasingly visible as fee-based accounts become a greater proportion of brokerage revenues. In addition, on a smaller scale, vertical portals with large customer bases may be able to derive additional revenue from cross-selling products and from advertising.

In the old business model, retail brokers generated revenue through commissions and account management fees. Imbedded in these fees were charges for advice. Because costs were largely fixed, profits were a function of trade volume. Discount brokerage houses broke this business mold, attracting those consumers who placed a low value on advice. To accommodate this value orientation, online brokers initially offered no-frills trade execution for a significantly lower price, essentially unbundling the advice from the trade. Margins on trades were tighter, but these houses were not supporting a costly salesforce or research effort. This made the new, unbundled business model work very profitably for firms like Schwab and TD Waterhouse.

Though there will always be a demand for personalized service, the importance of eAdvice will increase. The Internet provides consumers with easy access to information and the ability to take investment actions on their own. Sites like E*Trade and Schwab provide clients with a broad range of investment research from third-party sources, enabling private investors to make objective decisions. Online tools for tracking portfolio performance also help investors manage their accounts. We believe that advice will not become a commodity product and that the need for advice will continue to increase, though admittedly at a slower rate, helping to drive growth in advisory fee income. Look out for established companies like Intuit and emerging companies like Emergent Advisors to gain traction as the proliferation of choice accentuates consumers' need for advice.

Choice is becoming a major component of the new value

Figure 1–7
Percentage of Brokers' Revenues from Fee Income



Source: Morgan Stanley Dean Witter Research Estimates

hierarchy. Private investors appear to know what they want more than in the past and seem to be willing to leave their current financial service providers for firms that can deliver more flexible, customized products and services. The Internet makes product value (i.e., relative performance) more transparent, leading investors to shun underperforming proprietary products, for example. Individuals want access to a broad range of top-performing investment vehicles, and with lower friction costs, they will be more willing to move funds out of underperforming assets. Firms such as Schwab and Fidelity, with this type of "open architecture" model, cater directly to these demands. Moreover, as financial vertical portals open consumers' eyes to convenient one-stop shopping, product breadth importance becomes even more critical. As the regulatory environment changes, spawning sites like Citibank's Citi f/i that offer a complete range of content and services, companies like Schwab will need to continue expanding their product offering to compete.

Overall, consumers are reaping the benefits of unbundling, which brings lower prices. . . . The industry-wide pricing pressure from the advent of the online discount broker is well documented. Independent-minded private investors are quickly realizing that trade execution is a commodity and that they do not need to pay traditional broker commissions. In addition, as trade volumes have escalated, so too has the competition for those trades. The number of online brokers has more than doubled in the past year, with many of these houses hoping to capture market share through discount pricing. We expect traditional brokerage houses to lower commissions considerably as well, hoping to keep their customers from defecting until they can develop viable online offerings of their own.

. . . But brokers should eventually see some relief in the form of lower processing costs. We estimate that processing costs per trade will come down approximately 37% over the next five years. Despite the resistance to moving customers online, brokers that can build advisory fee income while increasing the percentage of transactions executed online should be among the beneficiaries of the new technology. We've yet to see this scenario unfold, but Merrill Lynch will provide some insights into how it may play out.

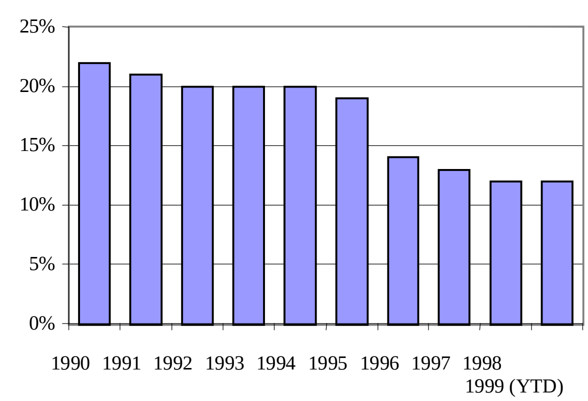
Convenience is also a key element in the evolving value proposition. A multi-tiered distribution strategy is quickly becoming the *de facto* method for servicing the private investor. Schwab, one of the pioneers of this strategy, offers customers account access online, over the telephone, and through their 293 branches. Companies with national branch footprints have an obvious advantage in providing convenience.

The burdens of choice and convenience may put significant cost pressure on traditional brokers. The net effect will be lower revenues and profits in the short term, as brokers scramble to match the offerings of their online competitors while maintaining legacy salesforces, but ample relief to the winners from increased volume further out. As a result, we believe that traditional financial intermediaries must reinvent themselves — and quickly. The shift in power away from the financial institution towards the retail investor will require a change in many firms' de-livery systems and cost structures. In our view, it will be the process of "creative destruction" — altering an existing business to build a stronger, more sustainable delivery system — that will allow these firms to build deeper and more robust relationships with both new and existing customers across a wider band of the retail financial services matrix.

We anticipate the trend toward open architecture, multi-tiered distribution, and pricing pressure to continue as more and more investors move online. We believe that current online brokers and certain players soon to enter the

Figure 1–8

Open Architecture Wins the Day: Proprietary Mutual Fund Sales as a % of Total Fund Sales



Source: Investment Company Institute

fray will likely create successful vertical portals, bringing together a broad range of financial services online. Both Schwab and E*Trade have made substantial progress toward this end. Increased convenience and top-notch customer service will also become key differentiators as investors seek to do more with their accounts. Advice is likely to become a component of high-quality customer service rather than a stand-alone product.

Finally, we also expect to see rapid progress in mass customization and customer segmentation. As successful brokers continue to accumulate assets and information on their customer bases, they will be able to further nurture the customer relationship by tailoring accounts to specific customer needs. For firms that do not know what their target markets are and which features distinguish them from their peers, the road is likely to be bumpy.

Table 1-7

Online Functionality: Securities Brokers

Company Name	Stock Commission (1000 shares) Market	Stock Commission (1000 shares) Limit	Number of Mutual Funds Offered	Banking Services: Check writing	Banking Services: ATM/ Debit Card	Banking Services: Online bill pmt	Research	IPOs
Charles Schwab	29.95	29.95	1,650	x	x	x	CSFB, H&Q	CSFB, H&Q
Fidelity Investments	25.00	30.00	3,400	x	x	x	Lehman	Lehman
E*Trade	14.95	19.95	4,600	x	-	-	BancBoston RS	E*Offering
TD Waterhouse	12.00	12.00	9,600	x	x	-	S&P	Wit Syndicate
DLJdirect	20.00	20.00	7,000	x	x	-	DLJ	DLJ
Ameritrade	8.00	13.00	7,000	x	-	-	-	Wit Syndicate
Merrill Lynch	29.95	29.95	2,500	x	x	x	Merrill	Merrill
PaineWebber	NA	NA	NA	x	x	-	PaineWebber	PaineWebber
Legg Mason	NA	NA	NA	x	x	-	NA	NA
A.G. Edwards	NA	NA	3,500	x	x	-	A.G. Edwards	A.G. Edwards
Wit Capital	14.95	19.95	-	x	-	-	Wit	Wit
Yahoo! Finance	-	-	-	-	-	-	-	-
Vanguard	20.00	20.00	2,100	x	-	-	MarketFacts	NA

Notes: All firms other than Yahoo! enable stock, mutual fund and bond trading.
Source: Morgan Stanley Dean Witter Research

Table 1-8

Progress to Date: Securities Brokers

Company Name	*Reach	*Stickiness	Number of Online Accounts *(thousands)*	Percentage of Online Customers.	Online Client Assets *($Billions)*	Percentage of Trades Online	Customer Acquisition Costs	Trades per Account per Year
Charles Schwab	839	37.0	2,500	46%	219,000	65%	175	9.3
Fidelity Investments**	951	22.7	2,710	26%	152,000	55%	35	2.2
E*Trade	1,810	41.3	909	100%	21,100	95%	257	22.3
TD Waterhouse	291	38.5	750	40%	46,000	38%	44	16.4
DLJdirect	401	23.1	243	100%	11,200	80%	185	22.5
Ameritrade	403	70.8	428	100%	19,500	84%	178	33.7
Merrill Lynch***	316	14.3	–	0%	–	–	NA	NA
Wit Capital	NA	NA	26	100%	NA	100%	3	5.7

Note: Reach and stickiness numbers as of May 31, 1999. All other numbers as of March 31, 1999
Reach = thousands of unique visitors per month (home/work)
Stickiness = average minutes spent per usage month (home/work)
** Source: Media Metrix, May 1999*
*** Fidelity (a) Online accounts defined as accounts with online access (For all other companies, accounts must have also traded in the last year).*
(b) Customer acquisition cost estimate is based on planned 1999 advertising expenses (per Bloomberg interview).
**** Merrill's online commission prices effective December 1999.*
Source: Morgan Stanley Dean Witter Research

Insurance — Life

Life insurers were among the first to go online with informative content and features like actuarial calculators, but they have been relatively slow to embrace online commerce. To date, we have not seen life insurers rush to use the Internet as a distribution channel. Online sales still make up less than 1% of the total term life market, and only 12% of insurers sell policies online, according to Forrester Research. The relative complexity of insurance products requires either a very educated consumer and/or personalized service/advice. The arcane nature of some insurance products, coupled with insurance companies' tendency to be risk averse and the fear of channel conflict, suggests they see the Internet as a possible alienating factor in their relationships with both consumers and agents. In fact, a recent report by Booz Allen & Hamilton found that 60% of carriers surveyed have no plans to sell directly over the Internet, even term life insurance. As a result, carriers have invested very little in creating online functionality. The same report showed that 58% of carriers' websites could not respond to a basic customer e-mail message.

Plain vanilla products are most suited to the Web. However, within the life insurance universe, we think commodity-like protection products such as term life insurance are well suited for Internet sales. These are often "demanded" by customers rather than "pushed" by agents. Whole life, variable life, and universal life may still be too complicated to write online. In fact, at this point the only life insurance product that aggregator sites like InsWeb offer is term life.

We believe investment-type products like annuities need to be better understood by the investing public before they become significant e-commerce products. Out of the gate, initial attempts to sell annuities directly have met with sluggish demand (Hartford Life and Pacific Life just pulled the plug on a joint venture to market annuities directly via AARP). However, Lincoln National's e-Annuity site is quite comprehensive, providing quotes, sales, and after-sales service including administrative capabilities. Although web-based annuity sales are small in relation to Lincoln National's overall sales, the company is currently focused on building alliances and has reasonable volume, which currently runs in the single-digit millions. Given the outlook for the Internet's near-term influence on the life insurance industry, we will focus our analysis on the term life segment.

More complicated products may be sold over the Internet through fee-based financial planners. We don't expect the average consumer to wake up and decide to buy a deferred annuity. But we can clearly envision the opportunity that fee-based financial planners will seize. We see them seeking out low-expense annuities which they can easily service online, just as Schwab has developed a core of financial planners that use their online brokerage services.

Table 1–9

Value Chain Changes: Term Life Insurance

Online Financial Services Revenues ($ Billions)			Margin Outlook					
1998E	2003E	Implied CAGR	Price Change	Cost Change	Margin Change	Old Model	New Model	Beneficiaries
$0.004	$0.73	181%	Down 10%	Down more than 10%	Up	• Product sold through own salesforce or independent agents	• Sales through aggregators & other websites disintermediate agent channel	• Companies with scale
						• Physical selling system	• Multi-tiered distribution	• Early adopters
						• Revenues from investment income and premiums	• Revenues from investment income and premiums	• Vertical portals stand to take share from both aggregators and traditional manufacturers
						• Profits dictated by investment returns, claims, and cost control	• Profits dictated by investment returns, claims and cost control	

Source: Morgan Stanley Dean Witter Research

We expect the percentage of term life sold over the Internet to increase from under 1% today to 15% by 2003. We estimate that term life insurance represents approximately 20% of today's overall ordinary life insurance market, which, assuming a growth rate of 3.5% (which includes a forecasted 10% reduction in online term life prices over time), means total premiums of almost $21 billion by 2003 versus $18 billion today. Of this market, however, only about $2.4 billion will represent new sales — a relatively small number when compared to personal non-life sales, for example auto, of over $100 billion renewed annually. This results in an online market of only $360 million in new sales by 2003. But premiums expected from renewals of online policies, which could amount to an estimated $365 million, would add significantly to this figure, implying a total of $725 million in premiums generated by online term life policies by 2003. While large in aggregate, however, this still would be only about 4% of the total term life market.

Table 1–10

Cost Savings Associated with Distributing a Term Policy Directly via the Internet

Assumptions
Beginning of year purchase
Direct sale from insurance company to consumer
Ten-year policy
Investment yield of 7.5%
Straight-line amortization of deferred acquisition costs
First year commissions = 50% of annual premium
Renewal commissions = 5% of annual premium

Premium		
Average premium/policy	$525.00	
Distribution Costs		
First year commissions	50%	$262.50
Renewal commissions	5%	26.25
GAAP Cost Savings		
First year	26.25	
Year 2 – 10	52.50	
Investment Income on Distribution Cost Savings		
First year	7.50%	19.69
Year 2–10 (no compounding)	7.50%	21.66
Total Benefit of Direct Internet Sale (cost savings + investment income)		
First year	45.94	
% of premium	9%	
Year 2–10	74.16	
% of premium	14%	

Source: Morgan Stanley Dean Witter Research

Traditionally, term life insurance has been sold through a highly fragmented network of independent agents. To a lesser extent, some sold product directly through an insurer's field force. Insurers pay the agents' commissions on their sales, and generate revenue through policy premiums and investment income earned from new policy premiums and the in-force book of business. After benefits, dividends, and other disbursements have been paid out and expenses have been covered, the remainder constitutes an insurer's profits.

We expect to see a change in the conventional business model. While insurers may be slow to move onto the Internet, we believe consumers will demand e-commerce capability in an attempt to make the life insurance purchase process more pleasant and less costly. We believe aggregators will begin to divert share from the agent channel by offering greater convenience and pricing transparency for buyers. We also anticipate that non-traditional carriers like Fidelity and Bank One will poach market share through offerings on their vertical portals.

Aggregators, such as InsWeb and Intuit/Quicken's InsureMarket, are poised to commandeer some of the agent's share of referrals. InsWeb sells its proprietary pricing software to insurance companies, which allows them to integrate their sites with InsWeb's. InsWeb then receives a referral fee on every quote. InsureMarket is a licensed broker and acts as an online agent, receiving a commission for every policy sold by the carriers through its site. InsureMarket's commissions are currently commensurate with those paid to traditional agents, though the former is positioned to sell policies at a lower cost per customer. The key to profit generation for these sites is to maximize quote and application flow while keeping the cost of customer acquisition low.

It is possible that an aggregator could launch its own insurance product via a private-label arrangement with an established carrier (possibly a reinsurer) or by funding its own affiliate. The question is whether an InsureMarket or even a Yahoo! Finance can build enough brand recognition and customer confidence in the insurance space to generate significant market share. While we believe that this is still some way off, we are not dismissing the possibility. And the lower cost structure of such a product could potentially create additional pricing pressure on the traditional players.

We believe that vertical portals will also help move insurance sales online. Though consumers are unaccustomed to turning to non-traditional sources for life insurance, we anticipate that vertical portals will bolster this kind of cross-selling. A 1999 report from Forrester Research indicates that customers in the "emerging affluent" category (who are heavy Internet users) are four times as likely to purchase life insurance from an insurance company as from a bank. However, as online consumers come to trust vertical portals for products outside the range of their traditional competencies, these barriers could come down.

Life insurers can use the Internet to garner sizable cost reductions. Overall, we estimate companies could save 10–15% annually (per policy) by integrating the Internet into both their sales and administrative processes. Granted, initial investment in technology might affect margins at first, but we believe that increased operating efficiencies, from both administrative cost reductions and agent disintermediation, could be realized once the industry has made its initial outlays.

Operating efficiencies will be realized through online processing and maintenance. Meridian Research estimates that currently, almost 20% of every insurance dollar is spent on administrative costs. By enabling end users and brokers to input information directly onto the Internet, and subsequently access and maintain accounts online, insurance companies have the opportunity to reduce their administrative costs substantially.

Second, **agent disintermediation could both squeeze commissions and allow for smaller salesforces.** Currently, commissions paid to traditional agents and aggregators alike on new term life policies run 40–70% of first year premiums and about 5–10% over the life of the policy. Due to the consumer's proclivity toward online price comparisons, we believe that it is unlikely that manufacturers will sell many policies directly, unless specialty manufacturers can differentiate themselves based on factors such as low cost. At the same time, we anticipate that if online aggregators or portals become popular, garnering significant online volume of policy sales, they may be willing to accept commissions or referral fees that are lower than current agent commissions. In addition, if, as we believe, the agency channel both shrinks and consolidates, insurance manufacturers will be able to reduce the size of their field forces and achieve further cost reductions.

Greater transparency should put pressure on pricing. Aggregators and vertical portals will allow customers to compare and purchase from a broad list of term-life providers. The commoditized nature of term life will likely result in price competition among manufacturers vying for market share, as they pass along some of their cost savings. We

Table 1-11

Online Functionality: Life Insurance Companies

	Available Products						
Company Name	Term	Annuities	Medical Insurance	Health/ Disability/ Travel	Long-Term Care	Home	Automobile
Fidelity	Yes	Yes	No	No	No	No	No
InsureMarket (INTU)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quotesmith	Yes	Yes	Yes	No	No	No	Yes
InsWeb	Yes	No	No	Yes	No	Yes	Yes
Quoteshopper	Yes	Yes	No	No	Yes	No	Yes
Quickquote	Yes	No	No	Yes	No	Yes	Yes
Rightquote	No	Yes	Yes	No	No	No	No
eAnnuity (LNC)	No	Yes	No	No	No	No	No
John Hancock	Yes	Yes	No	No	No	No	No
Lincoln Benefit Life (ALL)	Yes	No	No	No	No	No	No

Source: Morgan Stanley Dean Witter Research

expect to see prices on term life products sold over the Internet decline by 10% by 2003.

We believe that the net effect on margins will be modest compression in the near term. In our view, pricing pressure caused by the transparency of online sales may drive down margins slightly in the short term. Longer term, we believe margins on the whole could remain unchanged, as back office (Internet-related) efficiencies could help minimize margin compression.

Table 1-11 *(continued)*

Online Functionality: Life Insurance Companies

	Core Site Functions				Other Features		Making Contact	
Company Name	Online Quotes (Simple vs. Custom)	Online Application	Account Update & Portfolio Mgmt.	Admin Capability (Agents/ Brokers)	Financial Planning Coverage Calculators	Consumer Education	Customer Support (E-mail/ Telephone)	Branch/ Agent/ Broker Locator
Fidelity (1)	Custom	No	Yes	N/A	Yes	Yes	Both	Yes
InsureMarket (INTU)	Custom	Yes	No	N/A	Yes	Yes	Both	No
Quotesmith	Both	Yes	No	N/A	No	No	Both	No
InsWeb (2)	Custom	Yes	No	N/A	Yes	Yes	Both	No
Quoteshopper	Both	Yes	No	N/A	Yes	Yes	Both	No
Quickquote (3)	Custom	Yes	AU Only	Yes	Yes	Yes	Both	Yes
Rightquote	Custom	Yes	No	N/A	Yes	Yes	Both	No
eAnnuity (LNC) (4)	Custom	Yes	Yes	N/A	Yes	Yes	Both	N/A
John Hancock	Custom	Yes	PM Only	No	Yes	Yes	Both	Yes
Lincoln Benefit Life (ALL)	Custom	Yes	No	No	Yes	No	Both	No

(1) Fidelity requires users to download an application and fax/mail in the application, or to initiate business by telephone or at an investor center.
(2) InsWeb does not have a toll free number — all other sites do.
(3) Quickquote uses a network of "Cyberagents" to which Quickquote refers business.
(4) eAnnuity has a comprehensive online account management capability.
Source: Morgan Stanley Dean Witter Research

Insurance — Property-Casualty

We expect automobile policies to be the most popular insurance product sold over the Internet, mainly due to the size of the market and the relative simplicity of the product. Because automobile policies must be renewed at least yearly, new sales for automobile insurance are more than $100 billion annually, compared with about only $2 billion for term life insurance. We estimate that 15% of all automotive policies will be sold over the Internet by 2003, resulting in online premiums of approximately $18 billion versus less than 1%, or approximately $1 billion, in 1998.

We expect that as consumers move toward lower-cost offerings there will be a tightening of industry profits. Those companies that don't implement Internet strategies due to perceived channel conflict with their agents will be most affected by the loss of customers, in our opinion. Insurers that take advantage of the low-cost distribution channel that the Internet offers will be able to provide lower prices to consumers and take share from those that don't. However, while distribution costs fall, loss costs for online customers should remain constant. Due to competition, we believe the selling price of auto insurance will drop 10% over the next two years, resulting in margin compression from online sales. Overall, given our assumption that 15% of automobile policies are purchased over the Internet, we believe that the combination of these factors will result in a 200 basis point reduction in net margin, translating into a $300 million reduction in profits for the industry over the next two years.

The traditional model's selling structure will be attacked from several directions. Currently, almost all automobile insurance is sold through one of three traditional distribution channels: exclusive agents, direct response insurers, and independent agents. Companies selling through these different channels have significantly different expense ratios, as shown in Table 1–14. This differential implies that higher-cost distributors are more vulnerable to losing customers as pricing comes under pressure industrywide. As a result, direct writers could be best positioned for a shift in the value chain.

Table 1–12

Value Chain Changes: Auto Insurance

Online Financial Services Revenues ($ Billions)			Margin Outlook					
1998E	2003E	Implied CAGR	Price Change	Cost Change	Margin Change	Old Model	New Model	Beneficiaries
$1	$18	78%	Down 10%	Down less than 10%	Down	• Closed architecture, sold only proprietary product	• Open architecture	• Companies with scale
						• Selling channel includes own or independent agents	• Selling channels must include aggregators, other sites competing with existing salesforce	• Early adopters
						• Revenues from investment income and premiums	• Revenues from investment income and premiums	• Vertical portals stand to take share from both aggregators and traditional manufacturers
							• Profits should be helped by reduced commissions and field expenses	

Source: Morgan Stanley Dean Witter Research

INSERT LANDSCAPE TABLE 1–13 HERE

Exclusive agent companies and those with ties to independent agents could have a difficult time dealing with channel conflict. If they eschew the Internet channel in support of their agents, they risk losing customers who migrate online in search of better deals. Insurers that embrace the Internet may be concerned that independent agents will avoid selling that company's product, while exclusive agents will become disgruntled with their employers. However, for insurance companies to move toward doing business on the customer's terms, they must eventually be willing to rethink their business models.

Both aggregators and vertical portals could put pressure on existing sales channels. We expect to see growing use of aggregator sites like InsWeb and InsureMarket. We believe that they will continue to serve largely as agents, offering both branded and unbranded products. Again, likely candidates include the major portals as well as aggregators like InsWeb and InsureMarket. These "virtual" insurance companies could eventually pose a threat to traditional carriers, particularly those that are slow to adopt the online channel.

Vertical portals will also reshape the channels through which automobile insurance is sold, we believe. Currently, sites like Wells Fargo's only offer private label insurance products, but we expect them eventually to adopt an open architecture to expand their product breadth. As previously mentioned, WingspanBank.com offers numerous (traditionally) non-bank products. Ultimately, these open-architecture vertical portals may become the dominant online destination for insurance. In the near term, we expect to see both models infringe upon the traditional agent network. This should chiefly affect independent agent companies such as Hartford and Ohio Casualty.

Pricing transparency will provide one of the Internet's major shocks to the automobile insurance value chain. Unless they make considerable effort, customers currently have very limited visibility to pricing. This affords the insurance companies pricing latitude and comfortable margins, while customer loyalty prevents large-scale churn. However, as consumers become more accustomed to comparison shopping online, these loyalties may soon weaken. Online searches currently reveal a startlingly broad range of price quotes from a number of different companies. Some quotes come in two to three times higher than competing offers (Table 1–15). In order to capture online share and stay competitive, we believe companies will reduce prices on automotive policies offered online by 10–20% by 2001.

The good news for insurers is that we envision lower commissions. As consumers start migrating to aggregators, branded insurance sites, or vertical portals to apply for policies online, fewer commissions will be paid out to the agent network. A potential glut of agents could result in an estimated 25% cumulative decline in commissions and referral fees in the next five years.

Internet technology may also have a slightly negative effect on general expenses, at least in the short run. Including the purchase of new technology and the additional processing costs incurred by the disintermediation of the

Table 1–14

Automobile Insurance
Comparative Expense Ratios: 1997

($million)	Net Premiums Written	Expense Ratio
Agency Companies (e.g. SAFECO, Hartford, Ohio Casualty)	$34,861	26.5%
Direct Agent Companies (e.g. State Farm, Allstate, Nationwide)	$66,462	21.7%
Direct Writers (e.g. GEICO, USAA)	$11,051	16.3%
Total	$113,571	22.7%

Source: A.M. Best Company

Table 1–15

Comparative Price Quotes by Web Site

	InsWeb		InsureMarket	
State	Company	Price	Company	Price
California				
	Explorer	$ 1,702	Atlanta Casualty	$ 2,856
	Reliance National	1,583	Workmens	2,272
	GE Auto	1,282	GEICO Casualty	1,805
	TIG Insurance	1,192	GEICO General	1,594
	State Farm	1,140	Viking-Legacy	1,559
	Amica	1,071	Hartford	1,438
	Kemper	882	SAFECO	1,409
	Reliance Direct	866		
	Nationwide	654		
New York				
	Avomark (Ohio Casualty)	$ 1,546	Hartford	$ 1,461
	GE Auto	1,354	CAN-Universal	1,233
	AIG	1,234	Travelers P-C	703

Data for middle-aged man driving sport utility vehicle

Source: InsWeb Corporation, Intuit/Quicken InsureMarket agent, general expenses might rise by as much as 30% for online applications. These costs should be partly offset by the reduction in field expenses as volume through the agent channel declines. However, because price erosion is likely to come more quickly than cost savings, many agent-dependent companies such as SAFECO could feel pain early on. We believe that those companies that react quickly to the threat of the Internet will be able to offset lower margins with increased market share.

Direct response insurers like GEICO and USAA should be less affected by these changes due to their low expense ratios, customer loyalty from affinity marketing groups, and experience as remote operators. In fact, direct response insurers may be among the best positioned to take advantage of the Internet as their prices already tend to be competitive and they stand to benefit from the cost efficiencies generated by servicing accounts online, unencumbered by the bricks-and-mortar based channel conflict.

Table 1-16
OnlineFunctionality: Automobile Insurance Companies

	Core Site Functions			Other Features		Making Contact		Product
(Simple vs. Company Name	Online Quotes Online Custom)	Portfolio Application	Account Update & Coverage Mgmt.	Financial Planning Consumer Calculators	(E-mail/ Education	Customer Support Broker Telephone)	Branch/ Agent/ & Retirement Locator	Life Insurance Services
Hartford Financial	None	No	No	No	Yes	Yes	Yes	Yes
American International Group	Custom (Ltd)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chubb	None	No	No	No	Yes	Yes	Yes	No
Allstate	None	No	No	Yes	Yes	Yes	Yes	Yes

Note: All companies listed offer Home, Auto, Personal Lines, Business, and Property Liability.
Source: Morgan Stanley Dean Witter Research

Mortgages

U.S. residential mortgage debt outstanding, which has been growing at a 6–8% annual rate for the last 20 years, currently amounts to more than $4 trillion, making it the largest consumer financial asset class. The market for originations is expected to reach $1.3 trillion in 1999, down from $1.5 trillion in 1998. While origination volume can be cyclical from year to year, this is still a large and growing market.

We're projecting exponential growth in on-line mortgage originations, which should account for 10–20% of total originations in five years, up from 0.3–0.7% today, equivalent to roughly $100–300 billion in volume with the potential for $1–2 billion in revenues. We could be off in our timing — if anything, we're being conservative. Already, 10–15% of mortgage originations are influenced by the Web, according to recent surveys, even if the application is taken in person or over the telephone. Mortgage lending is particularly well suited to the Web, in our view, because the big-ticket nature of mortgages motivates intense product research and price shopping, which the Internet facilitates. Also, the "younger affluent" crowd that is the largest consumer of mortgages overlaps heavily with Internet usage demographics. Internet lenders even report success in finding sub-prime customers over the Web.

The Internet hasn't yet had much impact on pricing. The cost structure for online applications isn't much different than that for traditional call center or branch-based processing. The reason is that the mortgage origination process is labor and paper intensive, and the Internet hasn't really changed that process a great deal, except in the mechanism whereby consumers submit their applications.

It's certainly reasonable to expect that consumers will use the Web to do more price shopping than they did in the past, as the Internet facilitates comparison of multiple products on an apples-to-apples basis. However, we'd point out that consumers have long been price-sensitive for big-ticket obligations like mortgages. At the same time, non-price factors like brand and service also matter a great deal. They are critical because of the complexity of the mortgage application and closing process and the significant risks of an unsatisfactory outcome (such as losing the chance to refinance at attractive rates or risking a home purchase where the mortgage cannot be closed).

One sector of the mortgage market that might be at risk of greater pricing pressure is the consumer finance or sub-prime segment. These consumers, many of whom have comparatively minor credit issues on their record, have traditionally had few choices in obtaining loans. As a consequence, even the highest-rated sub-prime borrowers pay rates as high as 11% with 5 or more points (compared to an 8% rate and 1 point for a prime borrower). As the Internet helps educate consumers about their options, these borrowers may start to demand better deals for themselves.

The Internet's impact on pricing will be felt more strongly once "electronic fulfillment" (a.k.a. the paperless mortgage) becomes possible. Electronic fulfillment is the ability to originate, process, and close a loan electronically, without relying on paper files or physical meetings. The ability to close electronically should introduce significant cost savings into the origination business, while making the process quicker and easier for the consumer. We're not able at this time to estimate precisely the cost savings potential, although we would guess that one-third to one-half of the typical 150 basis points of average origination cost might be saved.

However, because of the complexity of the mortgage process, we estimate that true electronic fulfillment is still several years away. A number of firms, including Countrywide, Fannie Mae, and The Associates, are working toward this objective, and some are using the Internet to facilitate communication between lenders and the large number of vendors involved in closing loans. However, until digital signatures are widely accepted, the mortgage process will still require reams of paperwork. Also, liens must still be recorded manually at county recorders' offices.

Those firms that can most quickly realize the cost savings from electronic fulfillment will have the opportunity to cut prices for consumers (as well as provide better service) and therefore should be able to quickly expand market share at the expense of competitors that haven't figured it out.

The Internet hasn't yet altered the mortgage lending model. . . . Lenders find customers either directly, through mass media campaigns, telemarketing, direct mail, or branch-based salesforces. Most lenders also rely on intermediaries — independent mortgage brokers — for customers, and for their efforts the brokers receive 50–100 basis points in commissions. The economics of the business are simple. Newly produced loans can be sold (or securitized) into the capital markets for gains that range from 1.8% of the loan balance (for prime loans) to 4–5% (for sub-prime loans with wider margins). The cost to produce these loans (including marketing expenses, broker commissions, labor, hedging costs, and overhead) ranges from 100 to 150 basis points. Pretax margins for prime loans can range as high as 75 basis points for the best lenders.

. . . Although it does introduce an ideal channel for lenders to deal directly with consumers. Until electronic fulfillment is possible, the Internet won't change the process of closing loans. However, by improving price transparency, it does allow consumers to more easily find the best lenders themselves, without relying on traditional mortgage brokers as intermediaries. As such, the Internet should represent a tremendous opportunity for the best mortgage lenders — i.e., those with the most efficient cost structures, the best service, and hence the strongest brand recognition — to expand market share. Conversely, those lenders that don't have good prices, service, or brand recognition may find it difficult to attract consumers to their websites and may thus become even more reliant on intermediaries (brokers and aggregators) for new business. Ultimately, we expect the mortgage industry to be dominated by a handful of large firms that boast brand recognition, economies of scale, sound risk management (through servicing portfolios and careful hedging programs), and top-notch technology skills — the four sources of competitive advantage that mark the winning mortgage manufacturing model.

Change is appearing most rapidly among intermediaries. The Internet has spawned the birth of a new class of intermediaries, namely the "aggregator sites," whether Internet originators like E-LOAN, HomeShark, Keystroke, Interloan, and others, or "marketplaces," like GetSmart and Lending Tree. These entities perform essentially the function of traditional brokers, i.e., helping consumers find the best mortgage terms available, albeit, in our view, with a superior value proposition for the consumer, namely better

Table 1–17

Value Chain Changes: Mortgages

Online Financial Services Revenues ($ Billions)			Margin Outlook					
1998E	2003E	Implied CAGR	Price Change	Cost Change	Margin Change	Old Model	New Model	Beneficiaries
$75	$147	14%	Flat	Flat	None	• Revenues generated by loan gain on sale (from origination), servicing fees • Profits dictated by cost of originating loan	• Unchanged model	• Lenders that already have the best price and service • First to deliver paperless mortgages

Source: Morgan Stanley Dean Witter Research

educational and analytic tools and pricing. Intuit's QuickenMortgage site and Microsoft's HomeAdvisor site clearly enjoy the advantages of existing brand identity, high traffic at related websites, and large customer bases. Aggregator sites in general could be vulnerable to competition from other sites with higher traffic, like Yahoo! Finance or RealSelect's Realtor.com.

The basic function of an aggregator, like that of a broker, is to refer leads to a lender. For this task, aggregators earn anywhere from $40 for an application to 50 basis points (or $500 on a $100,000 loan) for a commission on a closed loan. Interestingly, some of the aggregators (like E-LOAN, iOwn, and Mortgage.com) are integrating backward into the mortgage lending function. They provide the full customer service function, fund the loan using their own warehouse lines, and then sell it for gains. In this respect, their economics are identical to those of traditional lenders. Longer term, we expect the growth of the Internet to slowly squeeze low value-added intermediaries, including many traditional mortgage brokers.

The most significant risk to the aggregator business model is that rising interest rates could choke off originations and pinch margins. This could be particularly painful for firms that have built up capacity and fixed costs and which, unlike the lenders, don't enjoy servicing or portfolio income. As such, we are skeptical that high-flying Internet valuations will be sustainable for mortgage aggregators like E-LOAN.

Credit Cards

In the realm of financial services, the credit card industry is relatively well positioned to weather the Internet storm. It already operates remotely, largely undistracted by bricks-and-mortar operations. And it is already accustomed to mining consumer data to use in micro-marketing campaigns — a skill we believe will be of central importance in the e-commerce arena. Given the worldwide growth of Internet commerce, both at the consumer and business level, and the fact that credit card companies collectively control one of the most important worldwide payment systems, we believe the industry is poised to play an important role in the electronic economy.

E-commerce spending should boost credit card interchange. We estimate that U.S. annual credit card charge volume will reach $2 trillion by 2003, up from $944.9 billion in 1998, resulting in interchange income of approximately $29 billion. Estimates of e-commerce spending range as high as $1.5 trillion, driven by business and consumer adoption of the Internet as a vehicle for transactions. In our view, much of this spending will be incremental credit card volume. We believe that the increase in e-commerce expenditures as a percentage of total personal expenditures will help boost annual charge volume growth from a prior estimate of 11% to our current projection of 15%.

We expect to see credit card receivables, which represent balances outstanding that may be paid off during the month or revolved as a loan, to grow at a more modest 6% annual rate over the next five years. We believe that better-educated consumers (thanks to the Internet) will increasingly favor cheaper home equity products over more expensive credit card debt. They are also likely to transfer balances to other credit cards or financial products more quickly to take advantage of the best deal.

The majority of developments we foresee in the value chain should benefit the consumer, but the industry as a whole should see positive effects as well. Though we see risk-adjusted interest margins (defined as net interest income less net charge-offs as a percent of average receivables) declining, we believe that industry pretax income will grow at a 12% compounded annual rate over the next five years. Our assumption is that earnings growth will be driven by fee income from interchange revenues and cross-sales. Issuers should also experience declines in operating costs as they migrate customers online. We estimate that by offering application processing, account access and billing, and answers to simple questions online, telephone time and paper processing could be significantly reduced, resulting in up to 25% lower unit servicing costs.

Credit card issuers generally derive revenue from three sources: interest income, interchange income, and other fees. In 1998, risk-adjusted revenues from unsecured loans accounted for 37% of total net revenue. Interchange fees, which typically average 1.3–1.5% of transaction volume, came to 35%.

We foresee limited threat from alternative payment systems. Widespread adoption of alternative payment methods could threaten card issuers, although we don't see much momentum at present. Alternative payment systems, like smart cards, online debit, ACH, or e-cash, currently suffer from the chicken/egg quandary. Consumers are reluctant to adopt a payment method that is not widely accepted, and thus relatively inconvenient; and issuers are disinclined to invest in a system that meets with limited initial response. Furthermore, unless these alternative systems offer loyalty programs and the ability to dispute charges, we believe that consumers will still favor credit cards.

We believe credit card issuers will rely on the Internet for distribution and services. As direct mail response rates continue to decline, we expect Internet marketing to play an increasingly important role in distribution strategy. TowerGroup estimates that online account sales will rise from 7% in 1998 to 12% in 2000. We believe that the percentage of new accounts opened online will grow from 7% in 1998 to approximately 30% in 2003. Currently, credit card customers can receive online approval and are able to transfer balances with only a few clicks of the mouse. Increasingly, consumers are aware of these capabilities and turn to the Internet to shop for deals on credit cards, revving up competition for their eyeballs. According to the Nielsen NetRatings, First USA and NextCard have been among the top 10 Web advertisers for the months of April and May 1999 (in April, financial service companies took 5 of the top 10 spots).

Table 1–18

Value Chain Changes: Credit Cards

Online Financial Services Revenues ($ Billions)			Margin Outlook					
1998E	2003E	Implied CAGR	Price Change	Cost Change	Margin Change	Old Model	New Model	Beneficiaries
$0.1	$4	104%	Down modestly	Down more than price, though change modest	Up modestly	• Remote delivery already	• Unchanged model	• Card issuers with business card and international protection
						• Revenues generated by interest income from unpaid balances and, to a lesser extent, interchange fees from charge volume		• Issuers with closed loops, merchant relationships, and scale
						• Profits dictated by margins, fees, credit quality, cost control		

Source: Morgan Stanley Dean Witter Research

Building customer relationships will be a key component to retaining profitability, revenue growth, and market share. Low rates will likely not be enough to create loyalty within the online consumer base, and so issuers will also have to focus on developing better services, such as rewards and loyalty programs, to drive customer traffic. These enhancements are funded through the discount rates charged by issuers. We believe that credit card companies enjoy a critically important competitive advantage in their direct access to customer relationships. This translates into access to data, which when astutely harvested should lead to significant cross-selling opportunities.

Credit card companies may also be able to use proprietary data to increase advertising revenues. They should be able to mine consumers' spending patterns and then use that information to direct highly relevant advertising toward them, resulting in elevated response rates. Issuers should be able to generate significant advertising revenue if they can generate traffic to their sites by having their customers service their accounts online. Companies will also be able to use customer information to customize offerings and build loyalty into the customer relationship. American Express already offers online rewards. The First USA site has partnered with 20-plus non-financial companies offering attractive discounts and rewards programs.

We may also see the emergence of vertical portals within this space. Smaller players may have a difficult time aggregating a broader range of products and services, and generating enough brand recognition to be successful in this regard. Meanwhile, we believe that certain large well-established financial services defenders (American Express, First USA, Citibank) already have begun to establish a presence as vertical portals. Sheerly by virtue of the traffic on these sites, vertical portals should be able to generate substantial revenue from advertising and revenue sharing with Web partners. In addition, they will benefit from cross-selling diverse products. As a result, these entities may be able to further reduce prices, even turning core products into loss leaders.

Table 1-19

Online Functionality: Credit Card Issuers

Company Name	Online Application	Online Approval	Online Servicing (f)	Shopping Links/Special Deals
American Express	Yes	No	Yes	Yes (a)
Associates First Capital	Yes	No	No	No
Capital One Financial	Yes	Yes (b)	Yes (b)	Yes (b)
Household International	Yes (c)	No	Yes (c)	No
MBNA	Yes	No	Yes (d)	Yes (e)
NextCard	Yes	Yes	Yes	Yes

(a) Developing shopping discounts and travel specials to online customers.
(b) Piloting online approval/servicing; to be broadly rolled out soon. Link to Visa shopping specials; potential with DoubleClick alliance
(c) Announced deal with Freeserve, the largest UK ISP, to offer credit cards (w/online app, approval, servicing). Online approval of select US private-label credit cards.
(d) servicing clients at www.mbnanetaccess.com site
(e) shopping specials through www.mbnabuy.com
(f) Defined as ability to pay credit card bill online, view account statement, and/or check transaction history.
Source: Morgan Stanley Dean Witter Research

Table 1-20

Progress to Date: Credit Card Issuers

Company Name	Ticker	Reach	Stickiness (min.)	# of Online Accounts (thousands)	% of Customers Online
American Express	AXP	1.8%	12.3	1000	4%
NextCard	NXCD	1.1%	4.1	40	100%
Capital One Financial	COF	0.7%	2.3	NA	NA

Source: Media Metrix, Morgan Stanley Dean Witter Research
Data as of June 1999.

INSERT LANDSCAPE TABLE 1–21 HERE

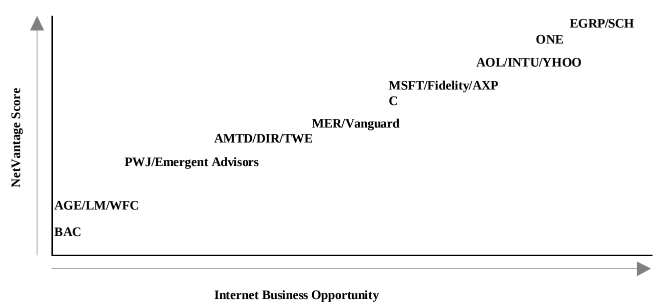
Section 2: Business Models — On a Crowded Runway, Only a Few Stand Out

We believe that the Internet will fundamentally change the evolution of successful business models in the financial services industry. We have identified the following four Internet-driven business models: (financial services) vertical portal, aggregator, specialty manufacturer, and company website. In this section, we define each model, discuss why we believe the first three will emerge as long-term winners, and why we think the final model is only viable as a short-term strategy. Additionally, we will address the forces driving companies toward adopting a specific model.

Firms will need to define their strategies clearly to navigate the changes we foresee as Internet access and capabilities grow. We expect the commoditization of basic products on the Web to put pressure on these products' margins, which must be offset by specialization, mass customization, cost efficiency, and/or alternative high-margin revenue sources. Obviously, the strategy that best enables a firm to leverage its strengths will likely be the most appropriate, but we are finding that some firms adopt a primary and secondary strategy, with the latter offering an extra measure of alternative revenue production. For instance, we believe the successful development of Schwab's site has enabled the company to progress from the pure company site model to the vertical portal.

Figure 2-1

Internet Business Opportunity: Vertical Portals



AGE	*AG Edwards*	*LN*	*Legg Mason*
AMTD	*Ameritrade*	*MER*	*Merrill Lynch*
AOL	*America Online*	*MSFT*	*Microsoft*
AXP	*American Express*	*ONE*	*Bank One*
BAC	*Bank America*	*PWJ*	*PaineWebber*
C	*Citigroup*	*SCH*	*Schwab*
DIR	*DLJ Direct*	*TWE*	*TD Waterhouse*
EGRP	*E*Trade*	*YHOO*	*Yahoo!*
FTU	*First Union*		
INTU	*Intuit Quicken*		

Source: Morgan Stanley Dean Witter Research

The Four Models

Vertical portals are websites distributing information and multiple products, focused on a single subject. Consumers will frequent these destination sites to access information relevant to their financial lives and to execute transactions. There will be many contenders. As aggregators of content, product, and services, the winners will be those sites with a high level of "stickiness" (a measure of the amount of time per month that users spend at destination sites), if not "reach" (a measure of market share of Internet users). To be successful, we believe several criteria must be met. Among them are open architecture, strong partnerships or alliances with specialty manufacturers, breadth of product, loyal customers with good demographics, and first-rate data-mining skills to cross-sell product, drive advertising revenues, or both.

Although adoption of an open-architecture format is still limited, we expect the walls to come down, allowing nearly all vertical portals to offer a broad range of products from multiple vendors to complement or compete with their own branded offerings. The strongest contenders will marry the portal to a multi-tiered distribution framework, so customers can enjoy the convenience of some combination of Web, telephone, and branch access.

Financial service vertical portals may come to resemble financial supermarkets. That is not to say that they need to sell everything, but they should have a broad representation of good products and offer users a positive experience. Otherwise, consumers will simply click away to a vertical portal that affords these advantages or to the "best-in-breed" manufacturer for execution.

A small number of technology and financial services firms have already built vertical portals. Some exist as specialized regions within large, popular portals like Yahoo!, Excite, MSN, and AOL. Intuit has established a vertical portal, Quicken.com, that links with its popular money management software, Quicken. Financial services firms, such as Bank One, Citibank, and American Express, are building vertical portals around their ability to offer transactions and account servicing online. We believe Schwab and Bank One (through WingspanBank.com) have already achieved vertical portal status.

Specialty manufacturers are companies with best-in-breed products that will be the primary suppliers to the main distribution points on the Internet. Nurturing a Web presence will be less important to these companies than producing a superior, low-cost, well-recognized, brand-name product. The strongest specialty manufacturers will construct Web-friendly interfaces and draw some traffic directly to their sites; however, many customers will likely either take delivery of their products or arrive through a vertical portal or aggregator. Part of a successful strategy for specialty manufacturers and aggregators will involve marketing financial services in non-financial-services locales — for example, selling life insurance on wedding-related or parenting sites, auto insurance on auto retailing sites, and mortgages on house-hunting sites. Just as MBNA built one of the most successful credit card companies out of affinity relationships, we think a winning strategy for the specialty manufacturer includes marketing *online* financial services to affinity groups.

This model is best suited for leading financial product manufacturers that are not well positioned to build vertical portals. These include companies primarily from the insurance, mortgage, and credit card industries. Companies currently espousing this model include Countrywide, Capital One, MBNA, and Janus.

Aggregators are destination sites for objectively comparing specific products, such as mortgages or insurance. They cull product prices and information, sometimes playing the intermediary role of online agent or broker. Aggregators are attempting to become destination sites by offering a depth of educational content not found on the portals, an extensive listing of price quotes, online application functionality and the ability to conduct transactions online. Certain aggregators have made deals with portals and individual companies to supply them with technology and content. For instance, InsWeb is an insurance aggregator. In a single site it offers users the ability to research, ask questions via email, and get quotes for auto, term life, individual health, homeowners, and renters insurance. A critical variable for success in the aggregator model is the annuity-like business that some of these business models can attract (i.e., receiving a fee each time an auto insurance policy is renewed rather than only for the first series of quotes).

Additionally, InsWeb powers Yahoo! Finance's Insurance Center. Because many aggregators charge manufacturers lower fees than traditional agents/brokers, manufacturers are able to offer aggregators discounts, which the latter may opt to pass on to consumers (though at present not all do so).

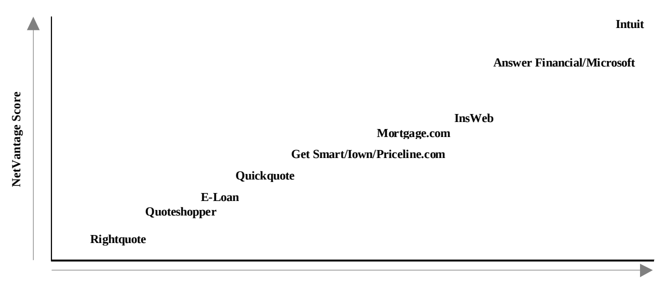
We believe the best known aggregators are those unencumbered by a bricks-and-mortar salesforce, such as InsWeb and E-LOAN. They tend to be Internet start-up companies that have negotiated agreements with financial product manufacturers. QuickenMortgage and InsureMarket grew out of Intuit's Quicken.com. We expect the aggregator model to continue to be adopted by third-party intermediaries, as we think product manufacturers will be slow to take the step toward selling a competitor's product on their own websites.

Company sites are primarily Internet storefronts. They offer companies a Web presence and, insofar as the sites provide functionality, a means of interacting with their customers. Sites may range from little more than brochureware to having full e-commerce capability. The company site is a go-it-alone strategy that offers neither the open architecture nor the significant alliances of the other models, limiting its product breadth.

As such, site traffic depends almost entirely on customers' needs to visit the site (which necessitates a strong brand and

Figure 2-2

Internet Business Opportunity: Aggregators



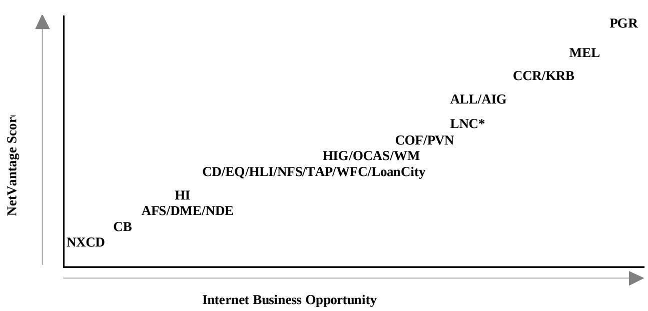
Source: Morgan Stanley Dean Witter Research

stickiness) or searches (which are typically fraught with very low conversion rates). More important, if limited product begets limited reach and stickiness, then this strategy can effectively close the door on big alternative revenue and/or margin enhancements like cross-selling or advertising. To be successful over the long term, a company site, we believe, must be chock full of real value-added, proprietary product with a strong brand name.

Most financial service companies currently adhere to the company site model. A recent Booz Allen & Hamilton report shows that the majority of insurance companies believe that they are still a few years away from offering any significant online functionality, though most have a website. The American Banking Association estimates that only 6% of consumer banks offer online services. However, we believe that many firms across the financial services industry will use company sites as an intermediate strategy in the hope of evolving toward the specialty manufacturer, vertical portal, or aggregator models. Such evolution will not be easy, and many mediocre company site models will stagnate.

Figure 2-3

Internet Business Opportunity: Specialty Manufacturers



AFS	*Associates First Capital*	*LNC*	*Lincoln Benefit Life*
AIG	*American International Group*	*MEL*	*Mellon Bank*
ALL	*Allstate*	*NDE*	*Indy Mac Loan Works*
CB	*Chubb*	*NFS*	*Nationwide*
CCR	*Countrywide*	*NXCD*	*Next Card*
CD	*Cendant Mortgage*	*OCAS*	*Ohio Casualty*
COF	*Capital One Financial*	*PRG*	*Progressive*
DME	*Dime/North Amer Mort*	*PVN*	*Providian*
EQ	*Equitable*	*TAP*	*Travelers P-C*
HI	*Household International*	*WFC*	*Northwest Mortgage*
HIG	*Hartford Financial*	*WM*	*Washington Mutual*
KRB	*MBNA*		

** Lincoln National's ranking reflects its comprehensive and functional eAnnuity site.*

Source: Morgan Stanley Dean Witter Research

We believe that the company site model is, at best, an intermediate-term strategy. Companies maintaining stand-alone sites do not have enough product breadth or depth to maintain significant traffic. Additionally, they lack the convenience of being able to input personal information only once to receive a full list of product options. A Web shopper will have to fill out an online form for each individual manufacturer from which he/she wants a quote — a time-consuming process. Vertical portals and aggregators, offering product comparisons and price quotes on a wide variety of financial services products, and ultimately a better value proposition, will hoard consumer traffic, we believe. The only exception we foresee is a company that can manufacture a consistently and visibly superior product. However, we believe that only rare financial services companies can achieve this level of devotion among consumers and that companies' business models will need to evolve in order to create an effective Internet strategy.

How We Expect the Models to Evolve

Over the long term, the winning business models will be specialty producers, vertical portals and aggregators. We believe that the combination of these models will offer the consumer superior value through choice, convenience, and low prices. Moreover, consumers will benefit from directed product and mass customization.

- **We believe the vertical portal will become the most powerful long-term distribution model** by offering consumers a variety of benefits aimed at increasing convenience and choice. First, customers will be able to use their financial services vertical portal to consolidate accounts and facilitate servicing. On-site, they should be able to review accounts, transfer funds, trade securities, get product-, security-, and market-specific information, receive and pay bills, manage all of their financial data online (using integrated personal financial management software), get credit cards, mortgages, insurance, and address estate planning considerations, etc. If convenience isn't enough, vertical portal companies will likely further encourage utilization by creating loyalty and rewards programs that cover multiple products, giving these firms an important advantage over single-product aggregators and company sites.

- **Vertical portals will also offer open architecture and customization features.** These attributes will ultimately generate the all-important stickiness. The financial pages of portals, like Yahoo!, AOL, MSN, and Excite currently provide links to aggregators and brokers that help consumers shop for specialty and big-ticket products, like mortgages and insurance, from a variety of manufacturers. Eventually, we expect to see vertical portals offer these services directly, potentially disintermediating all but the best aggregator sites (those that are low-cost and high in information content). By enabling consumers to personalize the content on a site (for example, by selecting tickers for specific stocks to track news and prices), vertical portals are increasing the value of the site to the end user, building loyalty, erecting barriers to defection, and thereby furthering their stickiness.

- **Stickiness is as important as reach to a vertical portal.** Unlike a horizontal portal such as AOL or Excite, we do not believe that vertical portals will necessarily need to generate broad reach or heavy traffic in order to succeed. So long as they are able to attract targeted, high-quality customers and create a loyal user base, vertical portals will likely do well. By controlling enough of the consumer relationship within a demographically attractive customer base, these portals will be able to charge access to content providers and/or advertisers in the form of product slotting fees or banner ads.

- **While a few aggregators may survive long-term, we think that this space will largely thin out.** Aggregators face the same challenge as company sites in that they will have to develop a compelling value proposition if they are to coexist profitably with vertical portals. Disintermediation has created value by lowering the cost of delivering product to the end user. Aggregators are sandwiched between the specialty manufacturer and the consumer, where there can be little room for profits on the Internet. If manufacturers decide to offer lower prices than aggregators for direct purchases, we believe the cost could be high. As soon as consumers realize that they can get a better price by merely clicking away to the manufacturer's site, the aggregator will have been reduced to an information provider, a role already filled by vertical portals and specialty manufacturers.

- **The best vertical portals will offer consumers "cross-border products" and a high degree of personalization, not just cross-selling.** For decades, cross-selling has been the holy grail of financial services, but past efforts have largely failed. We attribute these failures to two primary causes, both of which we believe the best vertical portals can avoid: lack of personalization, and product development that is focused on the manufacturer's needs, not the consumer's. This underscores our belief that companies need to transform themselves from product-driven entities to consumer-driven (a.k.a. marketing-driven) firms. Best-in-breed products will not be conceived solely as insurance or mortgage or banking products but as "cross-border" (for example, a mortgage for which the customer can use his/her securities account as collateral). An example of successful personalization will be offering customers new auto and homeowners' insurance when they obtain a mortgage on a new house.

- **If aggregators don't offer consumers the best pricing, they need to offer users a wide breadth of products.** Without either, we envision vertical portals taking on this function. We see risks to the longevity of the aggregator model. The first is the double-edged sword of pricing transparency. The Internet, especially through aggregators, offers consumers the ability to view prices of competing products in the comfort of their homes with the click of a mouse. However, if aggregators get too greedy and consumers realize that they can beat the best quote on the aggregator's site by going directly to the manufacturer's site, then the aggregator loses. Aggregators will offer consumers better pricing only if their marketing costs are lower than those of specialty manufacturers and only if they are extremely efficient in providing services. The second risk is that vertical portals may develop their own aggregator capability. To combat this, we think the aggregator must secure private-label product (pricing and information) from specialty manufacturers to maintain a broader product offering than that of vertical portals.

- **A few aggregators may survive, despite our belief that many of them will be displaced by vertical portals.** We believe that the vertical portal will eventually become the destination site for most financial service products, particularly automobile insurance, small consumer loans, credit cards, and checking accounts. If an aggregator can establish itself as the product specialist in a particular category and offer discounted pricing and top-quality content, the model may survive.

- **Specialty manufacturers will continue to partner with vertical portals to provide best-in-breed products at low cost.** Companies that manufacture financial products which consistently perform within the top quartile of their peers should benefit from the transparency provided by the Web, in our view. Specialty manufacturers of such products, regardless of their independent Internet strategies, should thrive as suppliers to the vertical portals. We believe that the key to success for specialty manufacturers, since they are limited in their distribution capabilities, will be to maintain a low-cost structure, brand recognition, and alliances. As margins are squeezed across sectors, particularly on commodity products, low-cost producers will enjoy a significant advantage.

- **We generally envision higher valuations for successful vertical portals than we would for manufacturers,** consistent with our view that controlling the customer relationship creates the strategic high ground. However, the stakes are also higher for vertical portals — if they don't get the traffic, they're dead in the water. A mediocre manufacturer may still be able to eke out a living, though manufacturers of products that can be commoditized or even given away as loss leaders (e.g., checking accounts, trade execution) could face major problems over time. We're also cautious about high valuations for aggregators, unless they are able to successfully build a brand or develop a technology-driven competitive advantage.

The Key Players in Our Scenario

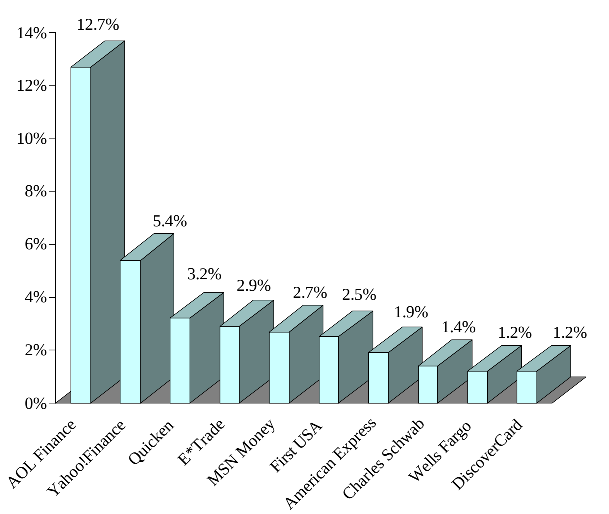
We believe that a small number of financial services and technology firms are well positioned to build successful vertical portals. The majority of financial firms, however, have neither the resources nor the organizational strengths to develop them. As such, they will need to focus their efforts on superior product development to become successful specialty manufacturers.

Technology companies and financial services firms both enjoy strategic advantages, but we think that the latter are best positioned to establish vertical portals. Both have large, loyal customer bases that they may be able to convert into vertical portal customers. The Internet portals have stronger reach (Figure 2–4), but the financial players generally command greater stickiness from their users (Figure 2–5). Ultimately, we believe that firms with control over the customer relationship will build the most successful vertical portals.

Banks and brokerages that are able to provide a high level of convenience by bundling commodity products such as checking, trading, and credit cards, will be strong vertical portal candidates, but their product lines need to evolve.

Figure 2–4

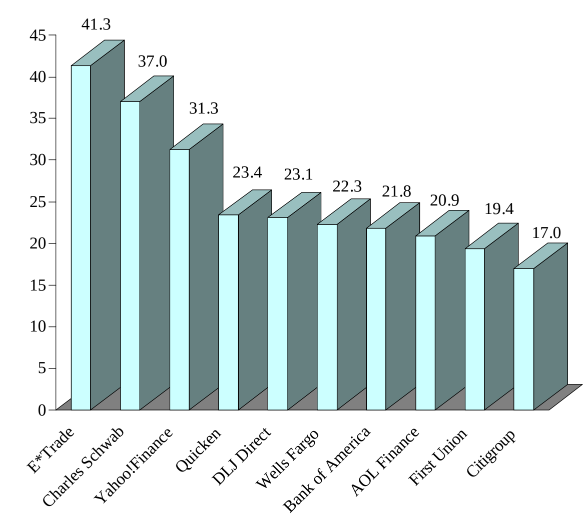
Financial Services Vertical Portal Reach…



Source: Media Metrix, May 1999

Figure 2–5

…and Stickiness



Source: Media Metrix, May 1999

Credit card companies control important data but are just starting to take major steps toward building popular destination sites.

As such, **we believe that most credit card issuers will play a manufacturing role.** There are some exceptions, however. American Express combines brokerage and credit card products, online banking, a strong global brand, travel services, extensive online servicing, the beginnings of third-party content, and upper-tier demographic customers. Additionally, American Express's closed network provides a competitive advantage in that it gives the company greater access to, and control of, transaction data. The network also allows American Express to innovate with new technologies. Bank One's First USA has also moved aggressively toward creating a vertical portal. Credit card companies like these should be able to leverage their proprietary data on consumer spending patterns to accurately segment their customer base and generate targeted advertising.

Insurers and mortgage lenders will likely remain specialty manufacturers. Products that are used infrequently will have an important place on the Internet, but they will not position the provider to evolve from a single-product focus to a broad customer relationship. Hence, while we expect many of these firms to use the Internet to acquire business and service accounts, we would not look to them to develop vertical portals.

We believe that success in adopting a winning model will depend on a company's ability to perform across a set of competitive measures, which we address in detail in the following section.

Section 3: The ABCs of Winning Online

Only a small number of financial services companies will be big winners in the online market, we believe. In determining which companies are most likely to succeed, we have identified what we consider to be the most critical broad-based elements of a successful Internet strategy. In this section, we define these criteria, briefly discuss the methodology for scoring companies on their NetVantage, and list the results by business model type.

The criteria we have used for evaluating companies' Internet potential are broad in scope and may be interpreted slightly differently for each business model. We believe that our ABCs accurately cover the essential elements of success across all sectors, though more individually tailored measures for each industry and business model type could be applied (and we've done so for the asset management and credit card sectors). Additionally, we do not believe that companies will have to excel in all criteria to succeed. There may be room for weakness in some areas initially, though the best companies will ultimately be strong across the board. We've arranged the criteria in an easy-to-remember ABC format:

Two As…

__A__lliances/open architecture
__A__lternative revenue/margin enhancers

…Two Bs…

__B__rand/marketing
__B__readth of product/content

…One C…

Customer service

…A Couple of Ds…

__D__ata-mining/technology
__D__istribution (multi-tiered)

…Ending with a Pair of Es

__E__conomies of scale/scalability
__E__xecution

Cutting to the chase, the best are… Based on our assessment of the vertical portals, we believe **Schwab, E*Trade, AOL, Yahoo!, Bank One,** and **Intuit/Quicken** are or will be among the standouts over the long term. Among specialty manufacturers, **Countrywide** is a clear leader in the mortgage arena, while **Progressive** and **AIG** are strong in property-casualty insurance. Among aggregators, we believe that **Intuit's QuickenMortgage** and **InsureMarket** are leaders in their respective areas.

If you're skeptical when we say that only a few financial services portals will be big winners, ask yourself why you would use the number-10 online bank or broker. Look at the mutual fund industry, where 80% of mutual fund flows go to funds rated 4 or 5 stars by Morningstar. Third-party ratings matter, and we believe that a Morningstar-equivalent will emerge to rate the vertical portals. Gomez, *Barron's*, *Consumer Reports,* and *SmartMoney* are already vying for this spot. People will be able to assess in minutes the capabilities of competing providers.

The Criteria and Why They're Important

Alliances/Open Architecture. For distributors — both aggregators and vertical portals — this means offering nonproprietary products and services. For specialty manufacturers, it means selling products outside of traditional distribution channels. In order to accomplish this, both distributors and manufacturers must have alliances with other companies. Firms are graded across this dimension based on the extent to which their network of alliances helps them distribute or provide products beyond their traditional scope.

We believe that the joint venture for electronic bill presentment formed by First Union, Wells Fargo, and Chase Manhattan is an example of the unusual partnerships that the Internet will continue to spawn. This venture, called The Exchange, is developing a "switch" that can receive bills and deliver them electronically to customers nationwide. Members of The Exchange will continue to compete for billers and customers, however. We view this partnership as a good strategic move for the banks because it leverages a number of their other ABC strengths, such as brand, scale, distribution, and customer service. Many of the other competitors in the bill presentment space are still struggling to establish these critical competitive characteristics. This alliance also reduces the risk that banks will cede control of the Internet banking customer relationship to other players, like the portals, that are likely to offer bill presentment on their sites.

For example, for a bank, open architecture means offering customers a choice of mortgages or credit cards from multiple vendors, in addition to their own branded offering. Additionally, we expect bill presentment flexibility with a multitude of billers to be part of the product array. For a mutual fund company that only sells product directly, it means participating in a mutual fund marketplace. We believe that choice is an essential element of the value proposition that successful firms will offer consumers, and that open architecture will be one of the means for providing it.

Hooking up with the right partner is critical, too. If your partner doesn't provide reach or convince your traffic to stay, the alliance may be fruitless over the long term. E*Trade has moved to create some important alliances, such as a large investment in Archipelago, an electronic communications network (ECN), and E*Offering, a leading online underwriter. We believe these alliances will provide the company with a competitive advantage, as access to online IPOs becomes the next "killer" product for online brokers.

American Express is rapidly forming alliances with business-to-business e-commerce enablers and networks, like Ariba, CommerceOne, Intelisys, Remedy, and Tradex, in pursuit of capturing a large share of rapidly expanding business-to-business e-commerce. And to help market its cards to small businesses, AmEx recently signed on as a premier sponsor of the Netscape Small Business Channel.

Intuit's QuickenMortgage has used alliances to assemble an extremely comprehensive menu of mortgage offerings. The company has signed up numerous banks and lenders. At the website, customers can choose among a wide array of products and lenders. Other mortgage aggregators pursuing similar open architecture strategies include E-LOAN, iOwn, iQualify (run by FINET), and Mortgage.com. Providian operates Getsmart, which markets a variety of loans in an open architecture format.

For specialty manufacturers in the credit card industry, marketing alliances can help drive new account growth over the Internet. MBNA's affinity marketing strategy works well on the Internet, as the partner relationships provide valuable customer leads for targeting banner ads and e-mail solicitations. At present, roughly 700 of MBNA's 4,600 affinity partners have websites. The company has also established co-branded and affinity relationships with several major Internet sites, such as Earthlink (an ISP), Infoseek's Go Network, and iVillage. Capital One has partnered with Internet advertising agency DoubleClick to target its banner ads. The issuer benefits from the exclusive rights to advertise credit cards on the thousands of sites with which DoubleClick maintains relationships (subject to existing card advertising deals.)

Alternative Revenue/Margin Enhancers. This criterion encompasses a company's ability to collect revenue outside its traditional business model. To a large extent, it's a function of the ability to generate traffic and advertising revenues. Vertical portals may also be able to charge the equivalent of slotting fees for product placement on their site. These will be important revenue flows for companies, if, as we expect, product margins deteriorate.

This criterion highlights the importance of controlling the customer relationship. The firms that win will have the ability to charge other companies for access. Obviously, vertical portals and aggregators will have a distinct advantage over specialty manufacturers in this regard, as they will tend to generate substantially more site traffic and stickiness.

Schwab has been able to harvest its customer data to target new prospects and cross-sell to existing customers. For instance, Schwab is using these data to position its new retail banking effort, Access Account — an online platform that allows customers to write checks, pay bills, facilitate direct deposit, transfer funds between accounts, and perform other transactions.

Countrywide's efforts to cross-sell products during and after the origination process stand out among mortgage lenders. Most recently, Countrywide acquired Balboa Insurance, a life and casualty insurer, and plans to sell Balboa's products through its existing channels. Other products offered by Countrywide include title and other types of insurance, appraisals, credit reports, and mutual funds.

Table 3–1

Selected Financial Services/Internet Alliances

	AOL	Intuit	Microsoft	Yahoo!	Excite	Lycos	Other
American Express	Premier placements for business card (with Netscape)		Content for MSN Money Central, featured card for Expedia.com				Ariba, Ticketmaster Online-CitySearch, CommerceOne, Concur, Intelisys, Remedy, Tradex, Network Solutions, IBM's Business Center
Bank of America	Marketing rights		Content for MSN Money Central	Access to account information			Wireless banking with 724 Solutions, Inc.
Bank One/First USA	$500M 5-yr card exclusive	Marketing with Quicken	$90M 5-yr card deal	Co-branded card	$125M exclusive	$135M 5-yr exclusive	Amazon, eBay, eToys, CNN, Dell, Quicken, Priceline, c/net, Broadcast.com, iVillage, InsWeb, DLJ*direct*, …
Capital One							Preferred partner with DoubleClick
Charles Schwab			Content for MSN Money Central		Co-branded MySchwab		Research/IPO from Hambrecht & Quist and CSFB
Citigroup	Marketing rights, Joint venture with Netscape	Co-branded card	Content for MSN Money Central				
DLJ*direct*	Marketing rights						DLJ (parent) provides research/IPO, Pershing, TheStreet.com

A number of banks are beginning to experiment with marketing nonfinancial products on their websites. Wells Fargo was one of the first banks to provide its customers with discounted online offerings — for sending flowers, buying Father's Day gifts, or just shopping at featured online merchants. Bank One's First USA has over 20 discounted offerings on its site, including JCrew.com, Skymall.com, FTD.com, and Netgrocer.com. First USA has also created a content site for its customers, AtYourRequest.com, which was designed to provide the services of a travel agent, concierge, researcher and personal assistant. This site also stimulates revenue for First USA, through advertising from outside companies like Amazon, eToys, and other leading online retailers. Additionally, First USA designs and then target markets special offerings to customers — like a Broadway play and five-star dinner or a Yankee game in a luxury booth. We believe that this generates a marketing fee for First USA and stimulates credit card use.

Table 3–1 *(continued)*

Selected Financial Services / Internet Alliances

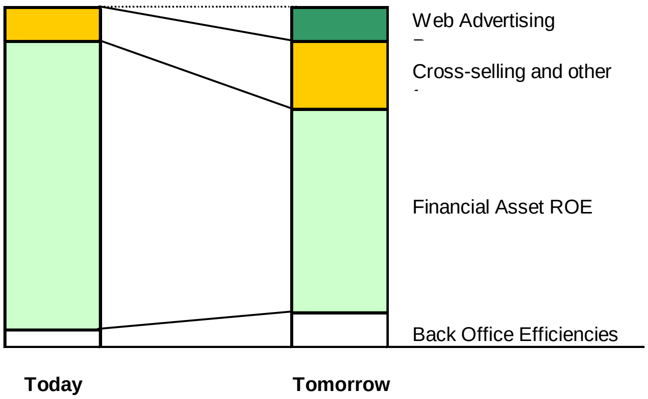
	AOL	Intuit	Microsoft	Yahoo!	Excite	Lycos	Other
E*Trade/Telebank	Marketing rights	Rebate on Turbo-Tax		Account integration and marketing rights			E*Offering, Archipelago, BankBoston RS provides research
First Union	Marketing rights	Marketing rights	Marketing rights				Founding member of The Exchange
Fleet						$22.5M deal	$4M co-branded card deal with Go2Net
Hartford Life		Marketing rights					
MBNA							$100M 3–5 yr card exclusive with Infoseek's Go Network, Earthlink, iVillage, Earthweb
Merrill Lynch		Distribution of Quicken software	Content for MSN Money Central				Works.com, Multex, Financial Engines. Links to over 40 e-commerce vendors, like eToys, Reel.com, uBid
TD Waterhouse	Marketing rights						Island, Wit Syndicate, Briefing.com
UnionBanCal	Marketing rights						
Wells Fargo	Marketing rights						Founding member of The Exchange

Source: Company Press Releases, Morgan Stanley Dean Witter Research

Brand/Marketing. Research shows that the Internet intensifies the importance of brand. With almost an unlimited number of choices, consumers increasingly seem to be relying on trusted names, even if it means a slight premium in price. As such, we believe the Internet will work to the advantage of large financial services firms with accepted brand names. On a more granular level, this refers to a company's ability to attract site traffic. Jupiter Communications estimates that about one-fourth of Web shoppers look for online offerings from companies in the offline world. Thus, a company like American Express, with one of the strongest brand names in financial services and 57% recognition, according to Interbrand, should have a great advantage. Brand will be important for vertical portals and specialty manufacturers alike. The former will rely on it to draw site traffic, while the latter will use it to differentiate product with the hope of generating higher-margin sales or hits.

Figure 3–1

Hypothetical Return on Equity



Source: Morgan Stanley Dean Witter Research

The American Express brand provides the company with a significant competitive advantage. According to Interbrand, American Express has the strongest financial services brand in the U.S. after Visa and MasterCard (which as shared brands, create little loyalty to individual issuers). We note that AmEx already serves 1 million cardmembers online.

We believe that Countrywide's ability to attract a large share of Intuit's QuickenMortgage's volume without offering the best price is evidence of the value of its brand name. In addition, the company reports that as many customers come directly to its website after viewing its rates at QuickenMortgage as click through at QuickenMortgage.com.

Bank One's First USA has aggressively marketed its Internet affinity credit cards on the Web. These specially designed cards, like the Yahoo! or AOL cards or e-card, offer customers cash-back bonuses for purchases made online. We believe that offerings such as these might allow First USA to capture a disproportionate share of online charges. A recent Brittain Associates report (April 1999) estimates that First USA currently has a 25% market share of all online credit card charges, significantly above American Express at 16% and Citibank at 13%.

Clearly, the Internet has proven that brands can be developed and, in short order, widely accepted. We have given this criterion the dual label of Brand/Marketing in recognition of this fact. In other words, we see many of the incumbent firms trying to avoid channel conflict by creating a Web-only name for online customers. We don't quarrel with this strategy but believe that very strong marketing talent (along with some of the other criteria listed here) is a prerequisite for developing a widely-recognized brand in a short period of time. This is what Bank One has in mind for its WingspanBank.com. We think it can succeed.

Largely as a result of the introduction of the popular Destination E*Trade site and a beefed-up advertising campaign, account growth at E*Trade has recently outstripped that of most of its competitors. The company currently has over one million active account holders.

Breadth of Product Offering/Content. In our view, a vertical portal cannot survive without good content, particularly related to information and product *breadth*. On the other hand, an aggregator, in our mind, must have product *depth*. Companies that score highly in this area will be able to offer one-stop shopping, numerous product options and, perhaps most important in the future, mass customization — the ability to enable each customer to bundle products in his/her own style. Technology has empowered the consumer and made the value proposition more transparent. Thus, the retail investor now wants choice (open architecture, rather than proprietary funds), convenience (multi-tiered distribution — branches, telephone, and the Internet), and fair prices (which might bring "bundled" pricing under pressure). Technology is also enabling the efficient distribution of advice — what we call eAdvice. Companies like Emergent Advisors are making institutional-quality investment advice to everyone.

We believe that choice is one of the major advantages of shopping over the Internet. Answer Financial, for example, can issue insurance policies from approximately 80 carriers in 50 states. We think vertical portals will set the standard for choice, aggregating multiple products, services, and sources of information across industry sub-sectors and delivering them to customers in a customizable way. Aggregators operating in specific sub-sectors are measured with more of a focus on the depth of their offering. Specialty manufacturers, by definition, do not score highly in this area.

American Express now offers the three most important financial products — credit cards, brokerage, and checking through Membership B@nking, the company's newly established Internet bank — that will likely draw customers to their website. In our view, these transaction products will help build the "stickiness" of its website.

DLJ*direct* has the potential to tap into a wide breadth of product. Unlike many of the pure plays in the online brokerage business, DLJ*direct* is affiliated with several large, international financial institutions, including DLJ and insurers Equitable and AXA (Equitable owns 73% of DLJ, while AXA owns a majority stake in Equitable). DLJ*direct*'s affiliations provide it with access to IPOs, research, insurance, and an attractive relationship with Pershing, DLJ's clearing arm.

As the lines continue to blur among banks, brokers, and insurers, we believe that Schwab, Fidelity, and E*Trade will emerge as some of the preferred providers for the emerging affluent who want to consolidate all their activities — checking, insurance, securities — in one financial intermediary. For traditional high-net-worth individuals, we believe firms such as Merrill, Goldman, and Paine Webber will remain providers of choice.

Customer Service. Fanatical customer service is becoming one of the hallmarks of successful Internet companies. Consumers, particularly those with less than two years experience on the Web, like to be assured that there is a person behind the user interface. And yet despite the importance of providing online and offline support for online customers, many companies still perceive this as an expensive luxury item. We evaluate companies based on the scope of their support for their online offering. Companies that do not provide online transactions are judged on their ability to respond to customer inquiries regarding site content. We have found that the range of service is fairly dramatic. For instance, certain companies offer only email support and did not reply to questions that we sent them. Others maintain fully staffed 24-hour customer support centers.

Customer service could take on a whole new meaning. Online customer feedback and chat will up the ante in customer service, in our view. A new class of companies like epinions.com, the general portals, and/or third party rating companies will have chat and feedback on their sites. Global positioning systems will allow a new breed of product development and even automated claims filing. Moreover, tickler systems are just around the corner with messages such as "Your loan can be economically refinanced now," "The mortgage rate you were looking for is now available," or "Company ABC is now offering an auto insurance policy that costs $XXX less than your current policy." And the ability to apply for and process a mortgage 100% online is only a few years away.

We believe that for certain transactions, some online customers will continue to demand help and advice from a person. Companies like Answer Financial are taking the call center model one step further by using new technologies, such as Acuity's WebCenter, to personally communicate and collaborate with their customers in real time. Such technology allows a customer to (1) use real-time chat to communicate with a service agent, (2) synchronize Web browsers, and (3) follow the agent's lead as he/she moves from Web page to Web page, helping the customer find specific information. Further, the two can collaborate on filling out online forms, one of the major hurdles in converting a surfer into a buyer. In other areas, companies that successfully integrate efficient independent advisors will reap great benefits. Examples include Schwab's partnership with independent financial planners and LoanCity's mortgage site.

In our view, given the secular trend toward defined contribution plans and heightened interest overall in retirement savings by retail investors as well as the increasing complexity of the capital markets, the need for sound guidance is becoming increasingly important. A financial intermediary that can provide information and answers about asset allocation, tax management, and retirement savings issues will win an advantage. For those firms that still concentrate just on trade execution and financial information, we think that the road ahead may be a difficult one.

Similarly, in the mortgage space, Countrywide stakes its reputation on quality service, including the ability to close loans in as few as 10 days. It uses a separate Internet customer service staff to ensure speedy response to Web surfer inquires.

Data-mining/Technology Skills. On a broad level, this criterion is a measure of a company's overall technological aptitude. It includes both the ability to collect and process useful data on consumer behavior and the capacity for developing and implementing strong online functionality. The more data a company can collect through its online presence, the better it will be able to tailor its offering to specific customer segments. Attracting and keeping online customers necessitates a top-notch user interface, incorporating a high level of customization, which in turn requires excellent technological capacity. Moreover, technology is changing quickly, enabling firms to offer customers today what they couldn't offer yesterday. An Internet purveyor must have the skills to adapt to these changes, rapidly and seamlessly.

Instant gratification is something online customers have come to expect. Companies that offer instant approval are likely to get better conversion rates than those that have an agent call you back in two days. Progressive and DLJ*direct* are good examples — each stands nearly alone in its space in offering instant approval.

Schwab continues to reap the benefits through its ongoing commitment to technology reinvestment. The company uses technology to provide innovative products, and handle increasing volumes (over 207,700 trades per day in April 1999, up 105% year-over-year). Schwab's technological expertise has enabled it to make over 6,900 changes or enhancements to its website in the first half of 1999, without disrupting service. In addition, Schwab has been able to lower customer acquisition costs by using information technology (mining data) to target new prospects and cross-sell to existing customers.

Fannie Mae and Freddie Mac are introducing automated underwriting technology to the broad mortgage industry, including both lenders and brokers. This technology facilitates an expansion of the market to reach borrowers who used to be rejected out of hand. The Internet provides an easy channel for brokers and lenders to access the agencies' underwriting models.

Capital One and Providian are well recognized for their ability to apply data-mining and risk management skills to profitably target under-served populations of the market. The Internet serves as an ideal medium for real-time targeting of mass-customized offers. NextCard has applied this discipline to the Internet channel.

Distribution (Multi-Tiered). This criterion includes the ability to distribute products through multiple channels, an important component of convenience. Companies that can deliver their products over the telephone or through a branch have a decided advantage over those that merely have an online presence. To cast the widest net, a company should also enable the consumer to toggle seamlessly between the two distribution channels, so that he/she can be speaking to a telephone representative while both of them have the latest account information at their fingertips online. Schwab and Citibank customers can deposit checks in person at their local branches and then go online for transactions. E*Trade customers, while getting a break on price, do not have access to this level of convenience. Progressive is one of the few insurance companies we know of offering all three channels of distribution — agent, telephone, and the Internet.

This criterion also covers efficient distribution. We increasingly believe that firms that control their own distribution often control their own destiny. However, we feel strongly that pure manufacturers can gain a competitive advantage by establishing profitable long-term relationships with key distributors in both core and non-core markets. For example, non-proprietary mutual fund companies that attain a "preferred" status in their core market, retail brokerage, can in many instances achieve the critical mass required to offset distribution costs and still earn healthy returns. Investment management firms that gain additional mandates in non-core markets such as broker-sold variable annuities are also exploiting an emerging distribution channel, though at an increasing cost.

TD Waterhouse has embraced a multi-tiered distribution strategy, using the telephone, branches, and the Internet. In our view, branches are an important part of the TD Waterhouse story as they allow the firm not only to acquire customers at more attractive rates than its peers but also to develop deeper and broader relationships with both new and existing customers (i.e., to gather assets under administration). In our view, increasing investor focus on the value of a multi-tiered distribution strategy will help distinguish TD Waterhouse from many of its pure online rivals.

Countrywide successfully distributes its product via a number of channels. The company originates loans through traditional mortgage brokers and Internet aggregators. At the same time, Countrywide also markets loans directly to customers through its extensive branch network and its Internet site. We project that the company will bring in $2 billion in Internet loans in 1999 out of its $80 billion in total production.

Fannie Mae and Freddie Mac, although unable to originate mortgages themselves, are also building distribu-

tion power by forming alliances with major lenders and by arming brokers with the tools to submit loans electronically and receive automated underwriting decisions.

Cendant Mortgage has the unique opportunity to market its products via leading real estate companies its parent owns — Coldwell Banker, Century 21, and ERA. Cendant Mortgage is also pushing onto the Internet, with plans to create a real estate-oriented vertical portal with online listing and mortgage application functionality.

Economies of Scale/Scalability. Growth over the Internet can be exponential for certain sub-sectors — for instance, term life and auto insurance, as well as credit card businesses. As a result, a company's ability to scale up to achieve this growth is important to determining Web success. For aggregators and certain distributors, scalability means being able to keep up with rising transaction volumes. For example, how capable is an online mortgage lender of handling traffic during a refinancing boom following a drop in interest rates? The same holds true for an online broker in the event of a selloff. And to a certain extent, scale gives consumers the impression of reliability, also very important for an online offering. As we previously indicated, to be a long-term winner, a manufacturer must have low-cost production, so it's no secret that economies of scale are an important goal for specialty manufacturers. Clearly, another benefit of scale is that investment costs can be spread over more revenues to generate a better return.

We believe that scale will provide a significant advantage to the largest banks as they compete with smaller banks and start-up companies on the Internet. Citigroup, Bank One, Wells Fargo, and Bank of America have the resources to invest hundreds of millions of dollars to develop vertical portals, compared with smaller banks and Web start-ups that bring relatively scarce resources to the table. We believe that Bank One's aggressive marketing campaign for WingspanBank.com, which has included prime-time television, radio, magazine, newspaper, and Internet advertising, could not be funded by a bank that is not in the top 5 or 6 in size without a material impact on earnings.

Medium-sized and smaller banks may be able to reap some of the benefits of scale, however, by partnering with Internet banking enablers like Sanchez or Security First, which provide sophisticated Internet banking and portal solutions more affordably by spreading the costs across many subscribers. We believe that these solution providers will also develop content and marketing relationships and offer them to bank customers that cannot develop them independently, given their limited customer bases.

For the credit card industry, scale makes a difference in efficiency and marketing clout. The largest issuers, like Bank One, American Express, Citigroup, and MBNA, stand to benefit from a reduction in operating expenses, as customer billing and servicing functions become automated on the Internet. Bargaining clout with merchants to develop the best deals for customers is an added benefit of scale.

Execution. This criterion refers to a company's ability to execute its strategic vision. Clearly, anticipating change is critical because it can shorten execution time. Therefore, execution also encompasses the speed with which a company can react to changes and implement strategic initiatives. Strong execution requires that companies be able to make fundamental changes to their existing business strategies. Obviously, this is easier for a start-up aggregator than for a global insurance manufacturer.

We view the launch of WingspanBank.com as a good example of the execution that will be required of traditional financial services firms that want to compete on the Internet. First USA management took the vision of an Internet-only financial services center from concept to production in about six months, which we believe is significantly faster than Citigroup has been able to move on its Citi f/i initiative. The innovation and dexterity demonstrated by First USA allowed it to beat its competitors, American Express and Citigroup, to market, and may be indicative of management's ability to anticipate and respond to the rapidly changing Internet financial services environment.

Like both its traditional and new competitors, eAnnuity provides basic company, fund and educational information, as well as interactive tools. However, unlike the majority of its traditional competitors, eAnnuity provides online quotes and fulfillment, and it seeks to differentiate itself from its new online competitors by providing online account maintenance, including the ability to change administrative information as well as monitor funds and switch among them.

Additional ABCs for Fund Management

For mutual fund companies, the road ahead remains an especially tough one, we believe. Individual investors have become more conscious about the performance of the products and services that they are now using. In April 1999, for example, 96% of total fund flows went to just six fund companies, all which have built strong track records of investment success. Moreover, we do note that 50% of all active equity managers were in net redemption mode in 1Q99.

From a strategic perspective, open architecture, or providing investors with an even greater ability to choose among funds (likely in a fund supermarket format) means greater choice, and this is a clear negative for an industry already awash with excess capacity. Load mutual fund companies are the most exposed, we believe, as investors are now likely to shy away from paying a substantial sales charge at the time of purchase.

As a result, we think there are additional ABCs, specific to the fund companies, on which to focus. They include top quartile investment performance, penetration of the retirement market, and international products and distribution. We do not necessarily subscribe to the “bigger-is-better” thesis. Nor do we think that size, scale, or distribution alone are enough to ensure success. Rather, we look for distinguishing characteristics that we believe will enable a firm to consistently earn above-average profits.

• **Top quartile investment performance**. While difficult to sustain, consistent, long-term performance is a source of competitive advantage that allows asset managers to gain access to new market segments. According to industry sources, 80–85% of all mutual fund cash flows find their way into four or five star-rated Morningstar funds. In our view, the emergence of fund supermarkets on the no-load side and the transition from proprietary products on the load side gives the competitive edge to those companies that can consistently deliver stable, long-term performance.

• **Penetration of the retirement market.** Demographics, growing investor sophistication, and fear over dwindling government funding are fueling a boom in the 401(k), 403(b), 457, IRA, Keogh, and annuity markets. In addition, portfolio reallocations on the defined benefit side between equities and fixed-income are providing a window for nimble asset managers to grab market share from their weaker competitors. In our opinion, firms that develop the best mousetrap for attracting and retaining these dollars will experience substantial earnings growth in the coming years.

• **International products and distribution.** We believe that firms that can provide their clients with a seamless global product will enjoy significant levels of asset growth in the coming years. To date, few money managers have built the infrastructure required to become a truly global investment management firm. However, as U.S. investors look to increase their exposure to the global capital markets, these firms should continue to benefit from the lucrative fees associated with international assets under management. In addition, as this elite group of international money managers establishes local distribution in foreign markets, we believe that they will further distance themselves from their peers.

Ranking the Players

In the following tables, we score companies by business model across individual industry sub-sectors. The companies we have selected are among those we think are having the greatest impact. They are taking charge of their own destiny by successfully establishing a strategy early on and deftly executing their plans. The list includes companies we cover and several that we do not. The companies are graded on a scale of one to five, five being the highest, across our ABC criteria. Their scores are then rolled up into a weighted average NetVantage score based on the weights assigned to the criteria for each model.

Weights indicate which criteria are most critical. The criteria are weighted differently for each business model because the critical determinants of success may vary in importance. For example, economies of scale receive a double weighting for specialty manufacturers because we believe that producing a low-cost product will be more important for survival than offering a broad range of products. The reverse is true, however, of vertical portals, which will need to focus more on distribution. Therefore, multi-tiered distribution and product breadth are among the criteria double-weighted for vertical portals but not the other models.

Companies within a sub-sector of retail financial services are graded primarily in relation to each other. Consequently, a company's NetVantage score should not be used for comparisons with companies in other sub-sectors and business models. For example, mortgage lending specialty manufacturers can't be compared to aggregators in breadth of product. Similarly, online aggregators are limited by definition in the scope of their distribution and can't be measured against vertical portals in this dimension.

Obviously, winning has its rewards. We believe that the companies that can best execute across these criteria will be poised to realize substantial benefits, primarily from gains in market share. Advertising revenues and slotting fees should grow in tandem with the flow of customer traffic. The winners will also be in a position to establish and ultimately brand themselves as market leaders, further enhancing their image in the eyes of consumers. Finally, successful companies will gain a head start in collecting consumer data and using it to tailor their online offerings. Companies that are not able to perform will be marginalized as their best customers go elsewhere, lured by better products and services. We expect many players to be consolidated under the mastheads of the industry leaders.

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Section 4: The Importance of Getting It Right

Consumers are rapidly moving online for financial information and products. A recent study (October 1998) by Brittain Associates (Table 4–1) shows what consumers are doing online, based on a survey of 1,200 Internet users. This study estimated that 30 million households, or 58% of Internet user households, use the Web to research stocks, bonds, and mutual funds. Roughly 30% of Internet users claim to have electronic checking accounts, and about the same amount report that they have shopped online for mortgages, home-equity loans, and credit cards. One-quarter to one-third of those who shopped for credit products actually submitted applications online, indicating that consumers are rapidly overcoming concerns about privacy and security. *(Note: This section is excerpted from the recent study by Ken Posner and Athina Meehan, "The Internet Credit Card Report: A Primer on the Industry and Its Role in E-Commerce," July 20, 1999.)*

Survey data show high awareness, with more consumers moving online. Research by Cyber Dialogue (Table 4–2) shows high awareness among Internet users for a variety of financial products, ranging from 59% for online banking to 26% for trading. The "conversion rate" (i.e., the number of people actually using a product expressed as a fraction of those who are aware of it) is highest for trading (27%) and banking (20%), followed by credit cards, mortgages, and other loans, in descending order. Among those Internet households that intend to use financial products online, we see a similar pattern. The highest conversion rates are for trading (56% of Internet users who are aware of online trading intend to use the product) and banking (43%). This data is important. It suggests to us that the *convenience factor* implicit in banking and trading online is still a stronger motivating factor than the *price benefits* that presumably drive online loan applications.

Table 4–1

Where We Are: Consumer Usage of Online Financial Services

	Mil	% Net User HHolds	% Total U.S. HHolds
Routinely use Internet	51.3	100%	50%
Research stocks, bonds, and mutual funds online	30.0	58%	29%
Comfortable using credit cards online	21.5	42%	21%
Have an electronic checking account	16.0	31%	16%
Transfer money/verify balances	10.0	19%	10%
Pay bills	8.0	16%	8%
Shop online for mortgage / home equity	15.0	29%	15%
Use online info when applying	9.5	19%	9%
Apply online	1.0	2%	1%
Shop online for credit cards	15.0	29%	15%
Apply based on info found online	10.5	20%	10%
Shop online for life, health, or property insurance	10.0	19%	10%
Apply based on info found online	3.5	7%	3%
Apply online	1.7	3%	2%
Trade online	9.0	18%	9%
Shop online for best CD rates	7.0	14%	7%
Purchase CDs based on info obtained online	2.5	5%	2%
Purchase CDs over internet	1.0	2%	1%
Open savings or money market accounts online	2.5	5%	2%

Source: Brittain Associates e-Financial Services and the Internet, October 1998.

Table 4–2

Awareness and Usage of Online Services by Cybercitizens

	On-line Trading	On-line Banking	On-line Credit Card	On-line Mortgage	On-line Loans
Awareness among Cybercitizens	26%	59%	46%	31%	31%
On-line usage (or on-line application) among Cybercitizens	7%	14%	6%	2%	2%
Conversion rate	27%	20%	14%	6%	6%
On-line usage intenders among current Cybercitizens	8%	14%	5%	4%	4%
Intender conversion rate*	56%	43%	24%	20%	20%

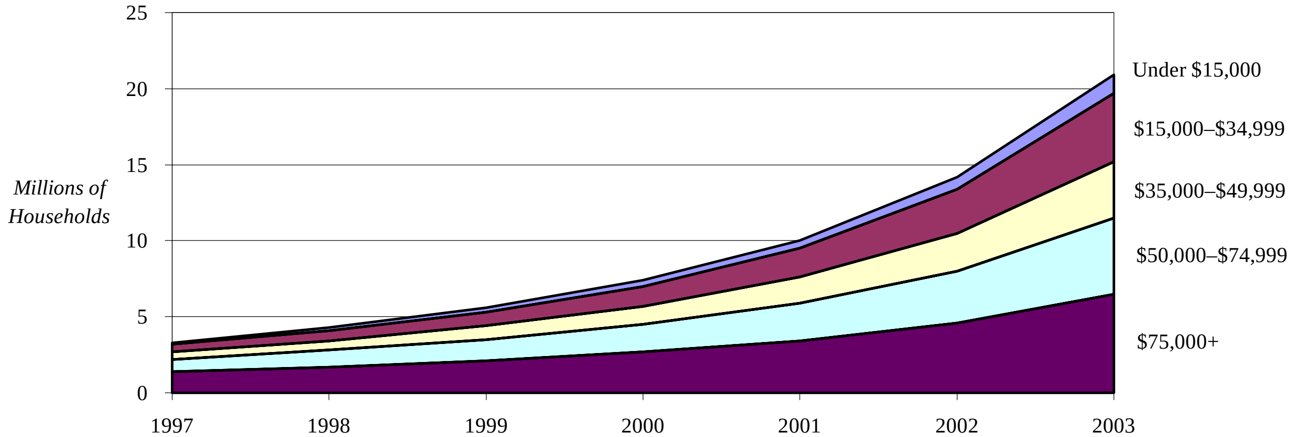
Source: Cyber Dialogue

** Calculated by dividing the sum of users and intenders by the awareness number*

Note: CyberCitizens are defined as U.S. adults of age 18 and older who use either or all of the following: e-mail, the Web, and any commercial on-line service.

Figure 4–1

Forrester's Forecast of Online Finance Households

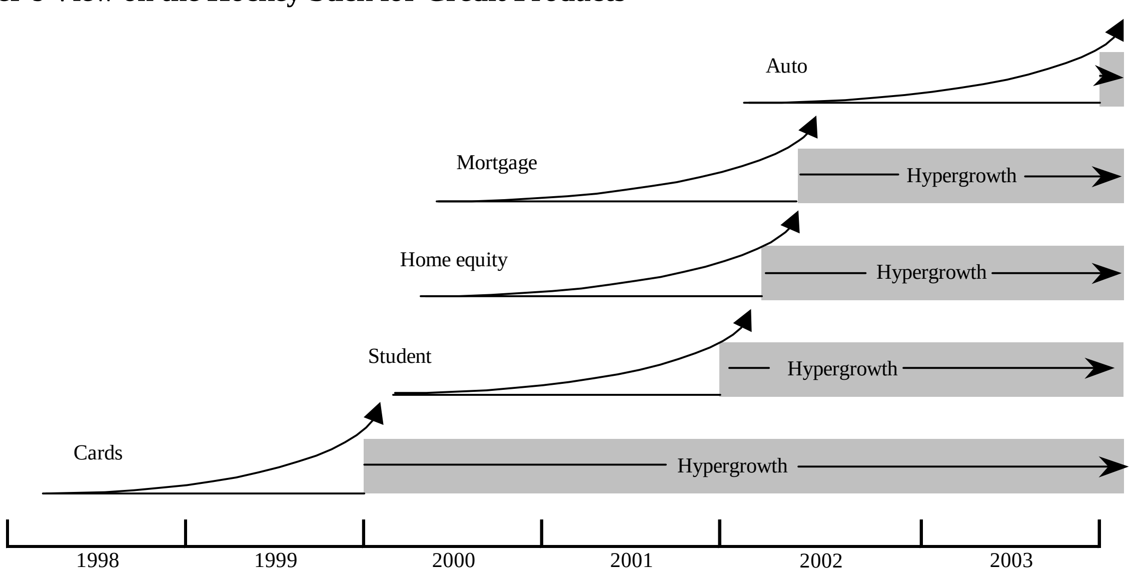


Household Income	1997	1998	1999	2000	2001	2002	2003	CAGR
Under $15,000	0.1	0.2	0.3	0.4	0.5	0.8	1.2	40.9%
$15,000–$34,999	0.5	0.7	0.9	1.3	1.9	2.9	4.5	46.1%
$35,000–$49,999	0.5	0.6	0.9	1.2	1.7	2.5	3.7	39.7%
$50,000–$74,999	0.8	1.1	1.4	1.8	2.5	3.4	5.0	34.1%
$75,000+	1.4	1.7	2.1	2.7	3.4	4.6	6.5	29.3%
Total	3.3	4.3	5.6	7.4	10.0	14.2	20.9	35.6%

Source: Forrester Research

Figure 4–2

Forrester's View on the Hockey Stick for Credit Products



Source: Forrester Research

Early Adopters Come from the "Emerging Affluent"

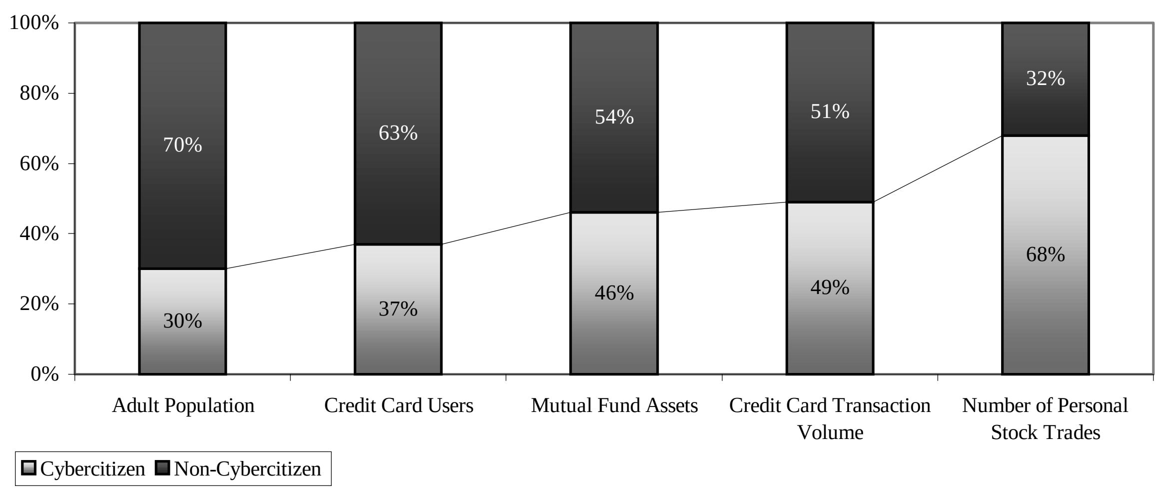
Much of the technology mentioned above, such as online bill presentment (once it is finally perfected), will offer truly compelling benefits to consumers across all segments of the population, in our view. What's available today, principally online brokerage and banking, has attracted early adopters from what Forrester Research calls the "emerging affluent" segment, a techno-proficient, educated, young demographic with average income of almost $70,000. Figure 4–1 shows Forrester's projection for growth in U.S. online finance households. Of note, the projected 35% growth rate in total online households over the next four years is primarily driven by households with $75,000 or more in annual income.

Online transactors are an important demographic segment for financial services. They're affluent, technology proficient, creditworthy, and heavy users of most financial products. For more detail on this slice of the U.S. demographic pie, we've turned to PSI Global for data on what it calls the "younger affluent" segment (defined by income of $100,000 or greater and age under 40 and accounting for 3.2 million households in the U.S.). Yes, this is a technology-proficient segment: 82% own a personal computer, 36% use financial software, 61% are online on the Internet, and 45% already transact online. And the segment is an active consumer of financial services, with higher-than-average ownership of and average balances related to virtually all financial products (Figure 4–4). For some additional perspective, we note that Cyber Dialogue estimates that Internet users account for 30% of the U.S. adult population, 37% of U.S. credit card users, 49% of card transaction volume, 46% of mutual fund trades, and 68% of personal stock trade (Figure 4–3). MBNA finds that Internet customers spend 2.5 times as much as their offline counterparts.

This demographic skew is meaningful. For one, Internet financial services strategies should be able to produce substantial revenues, given that small numbers of affluent customers control large amounts of assets. Second, the threat to offline financial services firms could be significant. The so-called "80/20" rule holds that 20% of an average bank's customers generate 80% of its profits. Offline banks that lose even a small number of their affluent customers to the Web could thus suffer outsized revenue pressure. According to PSI Global's estimates, the "younger affluent" and "affluent" segments together account for 6 million households, or 6% of the U.S., but about $54 billion in revenues, or 20% of the $270 billion in total consumer financial services revenues in the U.S. As these folks migrate to the Web, they'll leave a painful hole behind for offline firms that can't keep up with them.

Figure 4–3

Internet Users Are an Important Demographic for Financial Services!

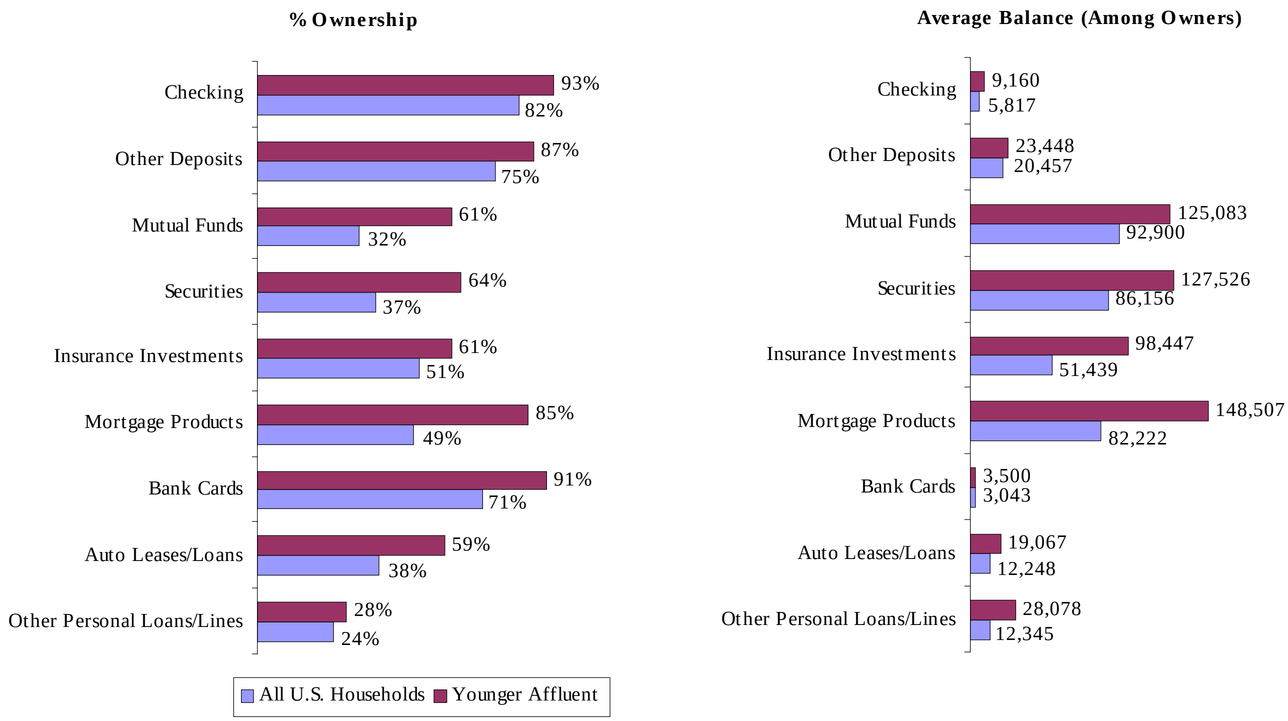


Source: Cyber Dialogue

Note: CyberCitizens are defined as U.S. adults of age 18 and older who use either or all of the following: e-mail, the Web, and any commercial on-line service.

Figure 4–4

The "Younger Affluent" Segment Is an Active Consumer of Financial Services



Source: PSI Global 1998 Consumer Segment Fact Sheets

Over time, we expect broader middle market segments to follow these early adopters online as the convenience and cost-saving benefits of transacting online become clear. Recent surveys suggest that the Internet is quickly becoming home to mainstream America. According to Pew Research Center, new users are significantly older, less educated, and less affluent than those already online. Of course, there could be lags and delays as older and less affluent segments of the population might move more slowly to embrace new technology. Forrester finds that it has taken about two years of Internet experience before households embrace online financial services.

Internet Consumers are Savvy and Price Sensitive, But are also Attracted to Brand

Clearly, the Internet will intensify price competition. The greatest fear among financial services firms is that the Internet will make it easier to compare prices, resulting in even further commoditization of financial products, reduced switching costs, and hence additional margin pressure. In fact, this is already happening, as consumers are using the Web to shop for information, even if most don't yet go the extra step of applying online. However, research is also showing that the Internet intensifies the importance of brand. With an almost unlimited number of choices, consumers seem to be relying even more on trusted names, even if it means a slight premium in price. As such, we believe the Internet will work to the advantage of large financial services firms with accepted brand names, such as American Express or Citigroup.

Web-savvy consumers are price sensitive. Data from Cyber Dialogue's research (Figure 4–6) show that Internet users are more likely than non-users to compare mortgage rates, compare loan rates, switch to lower rate credit cards, join discount shopping clubs, and use the Internet to compare mortgage information and rates. Common sense suggests that the spread of online applications with immediate approvals will make it easier to shop for the best rates. Lower search costs mean lower switching costs. As such, we'd expect the Internet to stimulate "teaser surfing" among credit card borrowers, rapid refinancings by mortgage borrowers, and greater price sensitivity for life insurance. Additionally, Web users show a modestly lower propensity to obtain mortgages from their primary banks, indicating that price sensitivity could erode existing relationships. (Of course, we've found that mortgages are generally difficult to cross-sell, because the big-ticket nature of the obligation makes consumers extra price-sensitive.)

The growing popularity of online auction-style market places highlights the price-sensitivity of many consumers. LendingTree.com was one of the first sites that let lenders bid on consumer loan prospects. Through partnership with priceline.com, the consumer auction marketer, LendingTree allows consumers to submit bids for loans on the terms they'll accept. Another site called realestate.com also promises to help lenders bid on residential mortgage prospects. These sites and others will certainly attract loyal users among the most price-sensitive portion of the population.

However, brand, a trusted name, and existing relationships are still critically important for many online users. In a world with nearly unlimited choices, many consumers zero in on names they know. Jupiter Communications believes that 23% of online users are "brand-needy," meaning that they search on the Web for trusted names from the offline world (Figure 4–5). We believe that this percentage will increase as the Web becomes more mainstream. Cyber Dialogue found that only 13% of the Internet users they surveyed would change financial services providers in order to use online services. Fully 52% of those surveyed indicated they preferred to use the same financial services provider online and offline. These data points suggest that many people will be very slow to leave existing, known, trusted providers behind.

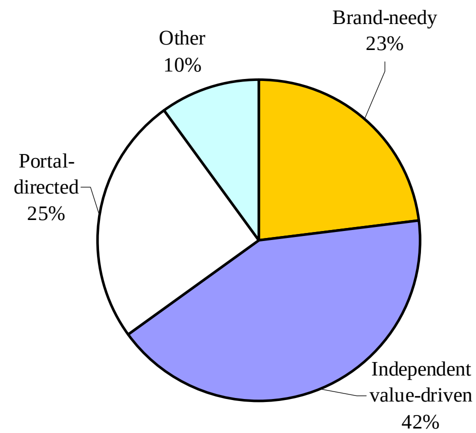
However, these advantages could erode quickly. Cyber Dialogue's researchers find that the proportion of Internet users that would change financial services providers rises significantly as these consumers spend time on and get more comfortable with the Web.

Brand affects pricing. We've found in studying the mortgage sector that many borrowers will pay a modest premium for a mortgage from a recognized lender in order to assure themselves of good service and a quick closing. As a proxy for brand power among financial services firms, we note that Merrill Lynch, American Express, and Citigroup top the list of the annual Fortune ranking of most admired financial services firms.

Financial products from a technology company? — No, thank you. In a recent survey, Forrester Research found that only 1% of the "emerging affluent" consumers they surveyed claimed they would be extremely likely to turn to technology companies to consolidate or purchase financial products. Instead, as we show in Table 4–7 (excerpted from their study), most respondents prefer to go to banks for credit cards, checking accounts, and mortgages; to insurance companies for life insurance; and to brokerage companies for stocks and mutual funds. This study illustrates the difficulty in extending an Internet brand into financial services, where trust is a critical factor.

Figure 4–5

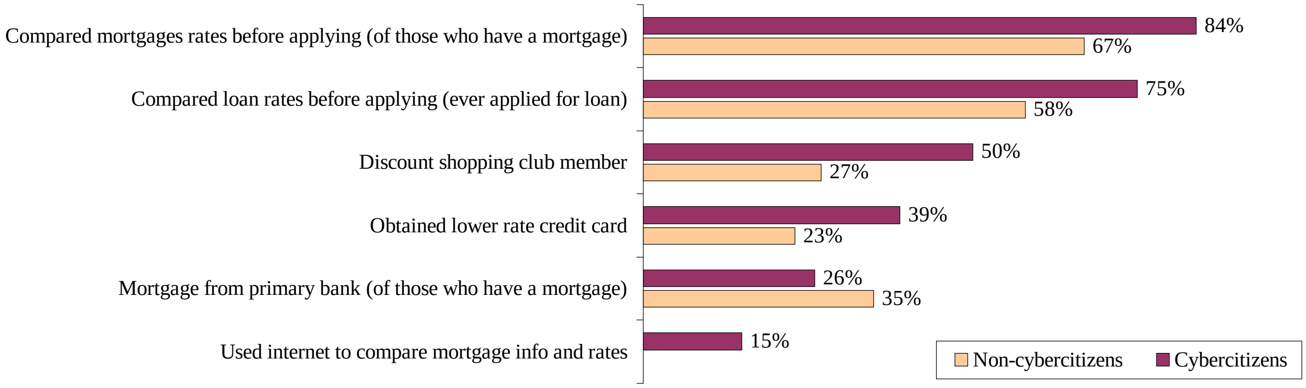
Consumer Behavior on the Web — Some Want Brand, Some Want Price



Source: Jupiter Communications

Figure 4–6

"Cybercitizens" Are Smart Buyers



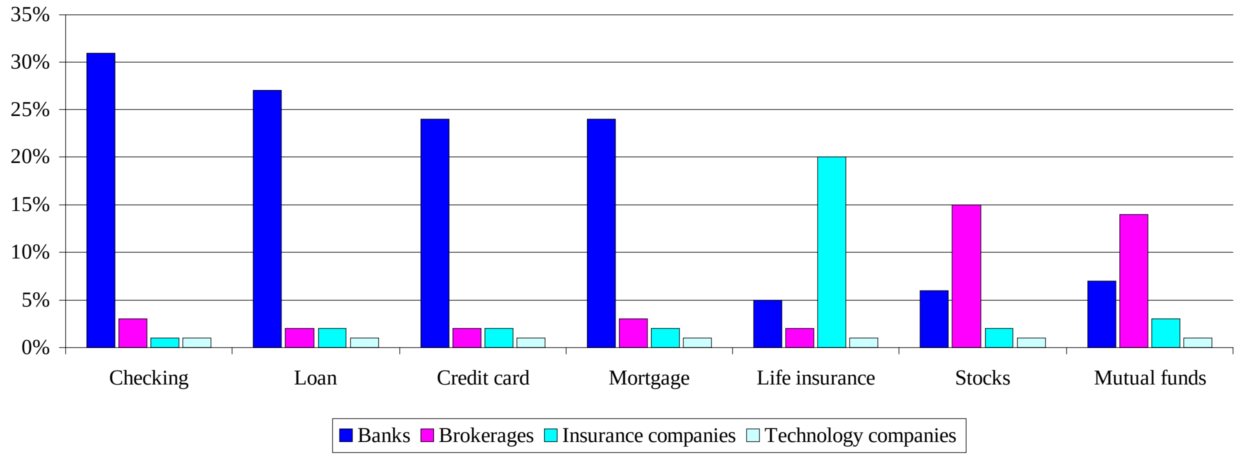
Source: Cyber Dialogue

Note: CyberCitizens are defined as U.S. adults of age 18 and older who use either or all of the following: e-mail, the Web, and any commercial on-line service.

Figure 4–7

Emerging Affluent Attitudes: Not Interested in Financial Products from Technology Companies

"How likely would you be to use this intermediary to buy this product?" (Summary of "extremely likely")



Source: Forrester Research.