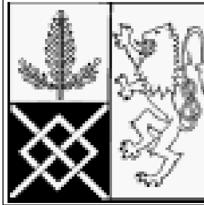

GRADUATE SCHOOL OF BUSINESS
STANFORD UNIVERSITY

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BROKER.COM

The future of our industry will be based on open architecture with increased choice— all based on client empowerment. In fact, that is the model we are building at Merrill Lynch. And I think we will see aggregation and consolidation driven by the complementary forces of client empowerment, the Internet and open architecture. In this period of aggregation, firms that deliver the right bundles of best-in-class products and services will be the big winners.

John "Launny" Steffens, Vice Chairman and Executive Vice President
US Private Client Group, Merrill Lynch, May 1999

Merrill Lynch's about-face was dramatic. Less than a year earlier, in July 1998, Steffens had reportedly espoused the opposite view: "The do-it-yourself model of investing, centered on Internet trading…is a serious threat to Americans' financial health." Over the course of the year, Merrill learned instead investors' desires to make their own financial decisions online could become a threat to Merrill's future health.[1]

The sudden growth in the popularity of online trading explained Merrill's about face. Between 1996 and 1999, online trading's share of US individual investor trades grew from 8 to 48 percent, and in 1999, investors began to demand it from full-service brokers. Although popular with investors, the Internet challenged the established brokerages. Full-service brokers such as Merrill Lynch, Morgan Stanley Dean Witter, and PaineWebber had not developed their long-established business models and processes with online trading in mind. Pure online brokers such as Datek and E*Trade, however, had designed their entire business models around the Internet, and discount brokers like Schwab were accustomed to exploiting low-cost channels. Nevertheless, all brokers competed in a fast-changing environment, buffeted by technological and regulatory change, and all were working to incorporate the functionality of the Internet into their businesses.

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[1] Charles Gasparino and Rebecca Buckman, "Facing Internet Threat, Merrill to Offer Trading Online for Low Fees," *Wall Street Journal,* June 1, 1999.

Haim Mendelson, Daricha Techopitayakul, and Philip Meza prepared this case under the supervision of Haim Mendelson as the basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. The development of this case was managed by Margot Sutherland, Executive Director, Center for Electronic Business and Commerce, Stanford Graduate School of Business. Send comments by email to Haim Mendelson, haim@stanford.edu.

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IMPACT OF THE INTERNET ON THE BROKERAGE INDUSTRY

The speed at which the Internet transformed the brokerage industry surprised everyone. Since 1997, the number of trades executed on the Internet had grown at a compound annual rate of over 111%, accounting for about a sixth of the market by 1999 **(Exhibit 1)**. The share of US retail commission revenues garnered from online trading increased from 2.2% in 1996 to almost 10% by 1999, even though online trading commissions were far less than full-service commissions. Internet technology, based on open standards and scaleable computing power, had decreased both the fixed and variable costs of the brokerage business and lowered barriers to entry for the industry. New online brokerages, unhampered by the legacy systems of traditional firms, sprang up and offered fees that were less than one tenth of those charged by full-service brokers.

Discount brokers, whose primary source of revenue was transaction services, keenly felt the impact of the new entrants. Discounters had come into being twenty years earlier on May 1, 1975, when the US Securities and Exchange Commission deregulated brokerage commissions. May Day, as the industry called the watershed event, had enabled discounters to put price pressure on full-service firms in the 1970s, which caused a massive shake-out in the industry.[2] In the mid-90s, the tables were turned against the discounters. Lombard and E*Trade, which began operations in 1992 and 1995 respectively, targeted the discount brokers' customer base of investors interested in fast, cheap trades. A price war resulted: E*Trade reduced its prices seven times between 1993 and 1996, before settling down at $14.95 per trade. From early 1996 through the end of 1997, the average commission charged by online brokers decreased by two-thirds from $53 to about $18.50 per trade.

Online brokers also used the Internet to bridge the gap between the value propositions of discount and full-service brokers. While full-service brokers had provided advice based on institutional research and analysis and discount brokers had offered stock quotes and cheap trades, online brokers could now offer investors access to a wide range of information sources (including information from independent non-brokerage firms), and investors could form their own investment strategies and trade at prices lower than even discounters could offer.

By mid-1999, when Merrill Lynch announced its low-cost online offering, Merrill Lynch Direct – priced at $29.95 per trade to match the commissions charged by online brokerage leader Charles Schwab – the brokerage industry had reached a crossroads. Industry players recognized the potential of the Internet and its profound effect on the customer-broker relationship. Merrill's new strategy challenged Schwab – and the entire brokerage industry – yet Merrill's stock dropped 10% on the news, largely because of the commission discounting pressure associated with online trading: Merrill Lynch Direct was estimated to cost $1 billion in lost equity commissions.[3] Merrill's stock price drop signaled that to fight the competition, traditional firms would need to implement full-scale changes in the way they conducted business. Indeed, by the

[2] After May Day, brokerage industry prices fell by 50% and industry profitability--by 40%. Within a few months, more than 150 brokerages merged or closed shop. The price of seats on the New York Stock Exchange, which had sold in 1969 for $500,000, plummeted to $35,000, the lowest price since 1895. However, the brokerage industry adapted to the change, and by the end of 1999, the price of a New York Stock Exchange seat had rebounded to about $2 million.

[3] Leah Nathans Spiro, "Merrill's E-Battle," *Business Week*, November 15, 1999.

end of 1999, full-service brokers implemented online offerings that were closer to those of the discount brokers than to their traditional full-service offerings **(Exhibit 2)**.

BROKERAGE INDUSTRY DEVELOPMENTS: 1970-2000

Before May Day, the exchanges fixed brokerage commissions and investors traded through full-service brokerages, which bundled three basic services: information, investment selection, and trade execution **(Exhibit 3).** Brokerages provided clients with investment research, market news and stock quotes. Brokerages also provided clients with research reports they compiled on companies and advice, including buy and sell recommendations and strategies for asset allocation. Finally, brokerages bought and sold shares for their clients through the stock exchanges or from their own inventory.[4] For this bundle of services, brokerages charged clients a hefty commission on each trade.

On May 1, 1975, brokerage commissions were deregulated. One result was the emergence of discount brokers, who charged a fraction of the commission full-service brokers charged for executing investors' orders to trade. For the reduced transaction price, clients forfeited tips and advice from a personal broker and used their own research and asset allocation strategies to trade. To drive down costs, discounters exploited technology. For example, many discount brokerages created call centers and took orders over the phone. By offering to provide services that individuals could not do for themselves; price quotes and trade execution, discounters began to unbundle the product offering of full service brokers – a process that was expanded in the 1990s.

By the end of the 1990s, Internet-based players had unbundled the entire value chain of the brokerage industry. Investors could obtain investment research for 2-5 basis points[5] (bp), asset allocation advice for 1-10 bp, and quotes and trade execution for 2-5 bp. The cost of online players' services compared favorably to the 60-80 bp full-service brokerage firms charged for bundled services **(Exhibit 4).** The Internet's ability to drive down the costs of information collection and dissemination, combined with the service void discount brokerages left, allowed new firms to unbundle full-service offerings and put more pressure on the business model of traditional brokers. When investors compared the low price offerings of online brokers to full-service alternatives, it was clear that the full-service brokers had recovered from the shock of May Day: full-service retail markups were again substantial, exceeding even the markup on restaurant wine. However, it was unclear how full-service brokerages would meet the challenges of online competition as it continued to gain momentum.

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[4] When a brokerage was also a market-maker in a security, it typically sold shares of that security to clients from its own inventory or bought shares from its clients and placed them in its own inventory. The full-service brokerages also sold their customers proprietary products, such as mutual funds.

[5] A basis point is 1/100 of a percent (100 bp = 1%).

INVESTMENT GROWTH

In the 1990s, a new breed of customers, the baby-boomers, born between 1946 and 1964, were poised to receive the largest inter-generational wealth transfer in history. Conservative estimates projected that between 1990 and 2040, baby-boomers would receive $5 trillion dollars in bequests.[6] Serving the baby-boomers, who insisted on both high quality and low price, was a major challenge.

In addition to the boomers, the number of affluent investors was growing in the US. In 1995, total liquid household assets amounted to $11.9 trillion, of which households with at least $500,000 in investable assets held about $6.4 trillion. Total US liquid household assets had grown to $18.2 trillion by 1999, and households with at least $500,000 in investable assets held more than $12 trillion. These trends were expected to continue into the future, along with the asset growth of the baby-boom generation.

CHARACTERISTICS OF ONLINE AND OFFLINE INVESTORS

The growth in the online brokerage industry had come primarily from young, educated and technology savvy investors. The average age of online investors was 39, and an estimated 44% of them had completed more than four years of college. Offline investors averaged 52 years, and only 36% had completed more than four years of college. Seventy eight percent of online investors used personal computers at work, in contrast to only 43% of investors who traded through traditional brokers.[7]

Almost a third of all online traders had six-figure salaries, and almost half had salaries in the $50,000-$100,000 range. Close to one-fifth of online traders held at least a half million dollars in securities.[8] Online investors also tended to be price-conscious and self-directed. Full-service brokers were surprised to learn that many affluent investors withdrew assets from their full-service brokers to invest online. A Merrill Lynch client from Austin, Texas with a twenty year relationship with the firm told Steffens in 1999 that he used a separate online account for his frequent trades – and that Merrill Lynch was one of the stocks he traded in that account.[9]

Forrester Research classified investors **(Exhibit 5)** based on their inclination to trade ("Active" vs. "Buy and Hold") and wealth ("Affluent" vs. "Moderate Wealth") and analyzed their demographic and trading characteristics **(Exhibit 6)**. Early adopters, mostly from the "Active" category, spurred the early growth of online brokerages. To continue to grow, brokerage firms had to appeal to mainstream investors, who accounted for 87% of investing households in the US.

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[6] "The Newly Wealthy," *The VIP Forum*, July 2, 1999.
[7] Forrester Research and Salomon Smith Barney, as cited in *The Online Brokers*, Salomon Smith Barney Equity Research, October 25, 1999.
[8] Forrester Research, as cited in "In the Mirror. Who's Trading On-Line," *Wall Street Journal*, September 8, 1998.
[9] Charles Gasparino and Rebecca Buckman, "Facing Internet Threat, Merrill to Offer Trading Online for Low Fees," *Wall Street Journal,* June 1, 1999.

Besides offering the right services to mainstream investors, brokerages also had to offer the right price structures to attract customers. Different types of investors varied in their price sensitivities and investment styles. *Self-directed* investors (about 15% of investors) wanted to make their own decisions and opted for low cost, do-it-yourself providers. *Opinion-seeking* investors (about half of all investors) made their own decisions but sought some information and advice; these investors preferred bundled execution and advice. *Fully-dependent* investors (about a third of investors) preferred relationship-oriented providers, who would become their financial guardians. *Self-directed* investors tended to be the most price-sensitive. Even among high net-worth individuals, 64% of self-directed investors were "extremely/very" price sensitive, compared to 44% for opinion-seeking and 25% for fully-dependent investors.[10]

In 1999, Wall Street began to offer investors a range of ways to trade online along with varying degrees of contact and involvement with an actual broker, instead of only offering one or the other. Wall Street proceeded with trepidation, however. Analysts estimated that online trading could take an initial 20% to 50% off the average broker's compensation.

BROKERS AND ADVICE

Traditionally, investment advice was offered by commission-based brokers, the bread-and-butter of full-service brokerages, or by Registered Investment Advisors (RIAs). Unlike commission-based brokers, RIAs charged an hourly fee or a fee based on assets under management. The Internet changed the dynamics of the industry, providing a novel delivery mechanism for information and investment advice and facilitating low-cost transactions – and altering the context in which commission-based brokers and RIA's offered their services.

Commission-based Brokers

Brokers were a powerful force in all full-service brokerage firms: they induced customers to trade and thus pay commissions. Brokers promoted their firms' proprietary – and profitable – products, and received a large fraction of the proceeds as compensation. Top producers were highly sought after because they brought their firm substantial commission and fee revenues and gathered millions of dollars in assets. In 1999, the average broker earned $175,000, making brokers one of the most highly paid professions in the US.[11] **(Exhibit 7).**

In the late 1990's, as full-service brokerages grappled with the challenges and opportunities the Internet created, they had to rethink the role of brokers. Broker compensation was a particularly sensitive issue. In 1995, the Securities and Exchange Commission recommended that securities firms change how they paid brokers to lessen the conflict of interest between brokers, who were motivated to move the firm's proprietary products, and customers, who wanted their money invested in the best product on the market. A blue-ribbon panel called the Tully Commission urged brokerages to spurn upfront signing bonuses, sales contests, and incentives to push proprietary products, such as in-house mutual funds. The commission, chaired by Daniel Tully, then Merrill Lynch's CEO, warned that these practices could pose conflicts and harm investors. The industry agreed to follow the commission's recommendations, but progress was slow.

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[10] *VIP Forum* Buyer Value Study.

[11] These numbers are averages for NYSE member firms, and were taken from the Securities Industry Association.

In 1986, Merrill Lynch introduced a compensation system that rewarded its brokers for accumulating customer assets, opening margin accounts, and making larger trades, while cutting compensation when brokers made small trades or offered customers commission discounts. In the 90s, full-service brokerages continued to shift their broker compensation structures from a pure commission base to a mixed model **(Exhibit 8)**. Yet, most traditional brokerages had not settled on alternative business models, and compensation structures changed slowly.

Later in the decade, overcapacity began to surface in the industry. In 1999, retail brokerage executives estimated that 25% of brokers were redundant, and analysts believed that technology would replace labor in the industry's cost structure at an accelerating rate. Yet, the long-running bull market had raised broker compensation to an all time high **(Exhibit 7)**.

Registered Investment Advisors

RIAs had been around since the Registered Investment Advisors Act of 1940. However, independent financial advisory services only became significant in the late 1990s. In 1992, the entire RIA industry had only $120 billion under management, compared to $151 billion of assets under professional management at Merrill Lynch alone.[12] By September 1999, RIAs managed more than $700 billion in assets—a compound annual growth rate of about 25%.[13]

Unlike commission-based brokers, RIAs charged an hourly fee or a fee based on assets under management. They did not work for, nor were affiliated with, any brokerage institution or organization selling investment products. They ran their own firms (sole proprietorships to multi-partner firms) and prided themselves on their objectivity. Fee-only planning removed commission-based incentives and aligned the goals of the planner and the client to maintain or grow total assets. Most RIAs charged an annual fee of 100-200 basis points on the size of the portfolio they managed. RIAs benefited from investor concerns about the conflicts of interest between brokers and investors under the commission-based model that dominated the brokerage industry.

THE INTERNET

By the late 1990s, the tidal wave of online trading had transformed the brokerage industry, challenging both discount and full-service brokerages. A variety of Internet-based services emerged to fill the information voids left between the discount and full-service offerings. Pure online brokers, as well as discount broker Charles Schwab, were already a long way down the learning curve on the use of technology to meet their customers' needs. Full-service brokers Merrill Lynch, Morgan Stanley Dean Witter and PaineWebber had to decide how to respond to the threats and opportunities the Internet presented. The following synopses describe these brokerages' journeys into cyberspace. **Exhibit 2** compares their online capabilities as of year-end 1999.

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[12] In the same year, Merrill Lynch had $463 billion in US private client assets.

[13] "The Future of the Financial Advisory Business and the Delivery of Advice to the Semi-Advisor," *Undiscovered Managers*, September 1999.

THE DISCOUNTER: CHARLES SCHWAB &CO.

Charles Schwab, a Stanford MBA, founded Charles Schwab & Company in 1971 in California. The company quickly established itself as an innovator. A defining moment came with the 1975 "May Day," when Schwab took advantage of the new opportunities deregulation offered. Schwab would not provide advice on which securities to buy and when to sell as the full-service brokerage firms did. Instead, it gave self-directed investors low-cost access to securities transactions.

From the late 80s to the early 90s, before the commercial use of the Internet, Schwab usedtechnology to increase efficiency and quality and expand its services. Schwab's innovations harnessed technology to the solution of business problem. As Schwab's President and co-CEO David Pottruck put it, "we are a technology company in the brokerage business." Schwab introduced TeleBroker, a fully automated telephone system that allowed customers to retrieve real-time stock quotes and place orders. Schwab also leveraged its back-office operations with SchwabLink, a service to provide fee-based financial advisors with back-office custodial services and the capability for RIAs to plug into Schwab's computers to trade. The RIA market became an important source of revenue for Schwab. By 2000, Schwab had 5,900 affiliated RIAs, who controlled about 30% of Schwab's assets, up from zero in 1987. Merrill Lynch viewed these RIA's as a "virtual salesforce" for Schwab: "We don't compete with the discounters. We do compete with Schwab. They have essentially built a Merrill Lynch by proxy."[14]

Schwab introduced the *Mutual Fund OneSource* program in 1992, enabling customers to purchase no-load mutual funds without paying commissions. The vast majority of OneSource assets were in non-Schwab funds, except the SchwabFunds money market, the only money market fund offered to OneSource customers. Funds were ranked and presented to Schwab customers based on objective characteristics (e.g., sector, investment style, or management fees) and performance. Customers could use their Schwab account to buy or sell more than 1,100 mutual funds from about 200 third-party fund families without paying any fees, and the transactions were integrated into their Schwab account statements and reports. Schwab serviced these accounts, aggregating all OneSource trades into a single daily transaction that was communicated electronically to the participating funds. Schwab charged fund providers a 25-35 basis point fee for listing the fund in OneSource and providing shareholder services.

Schwab and The Internet[15]

In 1995, Schwab recognized the increasing importance of the online channel. It put together a team to develop a new software-based online trading product called e.Schwab, that enabled investors to trade by dialing a toll-free number. The separate development unit reported directly to David Pottruck, Schwab's co-CEO, and evolved over time into a separate Electronic Brokerage Enterprise. Priced at $39.95 for up to 1,000 shares, e.Schwab was piloted in December 1995 and rolled out nationally in January 1996. Customers had to open a separate e.Schwab account and could only use a PC keyboard to trade, with no human contact. E.Schwab customers

[14] Arthur Urciuoli, SVP for Retail Marketing, Merrill Lynch, as cited in *Institutional Investor*, April 1996.
[15] This account is based on S. Dewan and H. Mendelson, *Schwab.com*.

were allowed one free customer service phone call per month and had to pay for additional calls. Further, e.Schwab customers could not receive service at a Schwab branch.

As e.Schwab was being launched, Charles Schwab challenged his Electronic Brokerage team to devise a Web-trading product by Valentine's Day 1996. By the end of February 1996, the Electronic Brokerage group had a prototype to show Schwab, and the company went live with Web-trading on March 31, 1996. Initially, customers could only check balances, buy and sell stocks and get real-time stock quotes. Nonetheless, customer response to Web-trading was enthusiastic. Schwab aimed to have 25,000 Web-trading accounts by the end of 1996; it realized that goal in the first two weeks of operation, even though Schwab did not advertise the service, and most customers only learned of it by word-of-mouth.

Schwab quickly dropped the price of Web-trading to $29.95, but kept the restrictions of the e.Schwab account. "We were trying to offer a technical product that didn't have all the rest of the services that Schwab had to offer but could offer a lower price," recalled David Pottruck. When it became clear that the dual pricing structure confused and irritated Schwab's customers, who had to choose between service and price, Schwab altered its strategy. Pottruck explained:

> [Initially] we made our customers choose - if you wanted Internet service at the Internet price you go over there. If you want the full array of services Schwab has to offer, you can't have that kind of pricing. That was a mistake… The key to our success is how we melded the Internet into the middle of who we are and what we try to do for our customers.

Starting January 15, 1998, Schwab offered Web-trading for everyone at $29.95 for up to 1,000 shares. Rather than try to prevent cannibalization, estimated to cost the company $125 million a year in lost revenues, Schwab pushed all of its customers to its website (http://www.schwab.com/). This was a phenomenal success: by the end of 1999, Schwab had 3.3 million active online accounts holding assets of $349 billion, and 73% of Schwab's trades were conducted through online channels.

While most Schwab's trades originated on the Web, the company maintained a strong presence across multiple delivery channels – functionality that Schwab's customers highly valued. Customers' ability to select a channel, whether they were placing a trade or seeking information, was core to Schwab's value proposition. Schwab customers could trade through Schwab's branch offices, through representatives at call centers, via automated telephone services, over the Internet, and over wireless devices. Schwab sought to take advantage of synergies between the Internet and its traditional channels. For example, Schwab planned to hold over 13,600 online investing seminars in 2000 in its branches for those not comfortable with Internet technology.

Schwab revamped its branches, replacing the teller-like counters with desks and private conference areas for meetings with customers. Telephone calls to the branches were directed to the national call centers, where a representative or a machine would provide the requested service. This allowed branch reps to spend more time helping investors on topics like financial planning and mutual fund selection. Schwab encouraged reps to develop a field of expertise, such as retirement planning or insurance. Schwab's brokers earned a salary and were not motivated through commissions on trades. Like most Schwab employees, brokers were eligible for cash

bonuses and stock options based on how their individual group and the firm as a whole performed. Their salaries and bonuses were around $50,000-$70,000.

To enhance its advisory capability, in January 2000 Schwab acquired US Trust, which offered trust, estate planning and private banking services to wealthy clients. In February 2000, Schwab also acquired CyberCorp, a fast-growing brokerage with specialized electronic trading technology for active traders. CyberCorp's order routing technology allowed customers direct-access trading to the main stock markets and ECNs. As CyberCorp's CEO Philip Berber explained, "Rather than create our own ECN, CyberCorp created a link to all ECNs and market-makers to allow us to search for the best price at the volume that the trader wants." Further, Schwab reduced the commissions charged to active traders using a graduated scale that declined to $14.95 for customers making more than 60 trades in a quarter.

Schwab offered differentiated services according to customer assets and trades. Customers who had $100,000 of assets with Schwab or executed at least 12 trades a year qualified for Signature Service, which included free access to additional research. Signature Gold Service was available for customers who had at least $500,000 of assets with Schwab; Signature Platinum Services for customers with $1,000,000 of assets with the company; and Signature Pinnacle services for customers with $7,500,000 of assets with Schwab. Dedicated account teams offered one-on-one customized services to clients in the Platinum and Pinnacle tiers.

By the end of 1999, Schwab provided securities brokerage and related financial services to 6.6 million active customer accounts. The company had 340 branch offices in 47 states, Puerto Rico, the United Kingdom, and the Virgin Islands. Schwab had 18,100 employees and was 40% employee-owned. It boasted customer assets of $725 billion. In 1999 alone, Schwab had attracted $80.8 billion in net new customer assets and opened 1.5 million new accounts (see **Exhibit 9** for Schwab's income statement).

FULL-SERVICE BROKERAGES

The following sections discuss full-service brokerages Merrill Lynch, Morgan Stanley Dean Witter and PaineWebber. **Exhibit 10** compares client assets for the three brokerages and Charles Schwab, and **Exhibit 11** compares services that the full-service brokers offered online.

MERRILL LYNCH & CO., INC.

Charles Merrill, a Wall Street bond salesman, opened an underwriting firm in 1914, and six months later, Edmund Lynch joined him as a partner. In the 1920s, the firm offered personal service to small individual investors. During the Great Depression, the firm sold its retail business to E.A. Pierce, Wall Street's largest brokerage. Merrill rejoined the business in 1940, with a clear vision: by applying mass marketing techniques to retail brokerage, the firm will "bring Wall Street to Main Street." Merrill's ideas were an instant success. By the 1950s, Merrill Lynch was the largest brokerage house on Wall Street, and by the 1960s, it was grossing almost four times as much as its biggest competitor. During the 1960s, the firm grew its offerings to include government securities, real estate financing, asset management and consulting. In 1971, Merrill Lynch went public.

Merrill has long had a strong sales organization and a record of product innovation. During the 1970s, it built up investment banking, insurance, and foreign operations. In 1977, Merrill invented the *Cash Management Account* (CMA), which combined a money-market checking account and a debit-card (later extended to a credit-card) with a brokerage account that held stocks and bonds.[16] The minimum balance required to open a CMA was $20,000, and the money-market checking account paid more interest than banks did, but it was not Federally insured.[17] Merrill Lynch spent 4 years introducing CMA; 95% of Merrill branches offered it by November 1981. The CMA, a package that handled a person's entire financial life, was one of the most successful retail financial products of all time and led to tremendous growth for Merrill Lynch. CMA Money Trust[18] assets grew from $3 billion to $10 billion in 1981 alone, making it the second largest money market mutual fund. The number of CMA customers exceeded half a million by the end of 1981. In 1982, Merrill put together its vision for the 1990s in a document entitled "All Things to Some People." Merrill Lynch would focus on the "Total Financial Relationship" with its clients, requiring that "our Account Executives[19] must become highly skilled financial planners and advisers—not just product pushers." In 1984, Merrill's retail "Account Executives" were renamed "Financial Consultants."

During the 1980s, Merrill Lynch's underwriting business also exploded, making it a global leader in new offerings. By the beginning of the 1990s, Merrill became the undisputed 500-pound gorilla of the brokerage industry. It had few close rivals and had been on the vanguard of technology and product development for 20 years. By 1999, Merrill Lynch was the leading brokerage, with 15,000 brokers serving over 5 million accounts in 800 offices across the US. See **Exhibit 12**. for Merrill's income statement.

In the 1990s, Merrill became a member of several non-US stock exchanges, and in 1995 it acquired Smith New Court, which provided global equity and research capabilities. Two years later, Merrill acquired Mercury Asset Management, adding to the firm's global and institutional investment management expertise. Through alliances and acquisitions, Merrill also established its presence in Japan, Canada, South Africa, Spain, Italy, Australia, and other parts of the Asia-Pacific region. By 1998, Merrill was present in 43 countries.

As a full investment bank, Merrill gave its brokerage customers an inside track on the stock and bond offerings it underwrote. The brokerage had over 800 respected analysts on staff, producing research reports for Merrill clients.

Merrill was accustomed to leading its competitors – until December 28, 1998, when the market capitalization of Schwab, which Merrill had dismissed as merely a "discounter," surpassed that of Merrill Lynch. The news shook Merrill's management.

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[16] For example, customers could use the card to borrow against their investments.
[17] Under the Glass-Steagall Act, enacted after the Great Depression, brokerages could not offer banking services. The Act erected a wall between banking institutions (where the Federal government insured the deposits) and securities firms (where the customer's money was at risk). It was repealed in 1999.
[18] CMA Money Trust was the money market mutual fund in which CMA credit balances were invested. Merrill added two other money market funds to CMA in 1981.
[19] I.e., retail brokers.

Merrill and The Internet

Although Merrill Lynch was slow to embrace online brokerage, it had deployed various related technologies in the mid 1990s. In 1996, the company started rolling out *Trusted Global Advisor* (TGA), an $840 million, five-year initiative to upgrade its retail brokerage unit, the US Private Client Group. TGA was an Intranet designed to support brokers with flexible, intelligent replacements to its legacy terminal applications. TGA's capabilities included financial and portfolio modeling, news, market data, analyses, research, email, fax, and multimedia tools. The system integrated market data, client information (including "household views" of client activities), and research from hundreds of legacy databases. Brokers could view research reports and historical data side by side with external databases and news sources, enabling them to plan, help clients, and manage money more effectively. The TGA rollout started in March 1996, and it was fully deployed in all Merrill Lynch US branch offices by 1998.

In November 1996 Merrill launched *Merrill Lynch OnLine*, which allowed clients to view multiple accounts, examine their portfolio positions, and browse statements and research reports. When Launny Steffens proudly showed it to an outspoken Silicon Valley business leader, his reaction was: "Launny, your site sucks. Your research is just about the best out there, but you keep it hidden away, reserved for current clients. Why isn't it free?"

On November 2, 1998, Merrill Lynch launched *AskMerrill*, making its entire database of corporate research available free through a new website for a four-month trial period. According to Steffens, AskMerrill was designed to showcase the company's research; the value of the website would be "even further enhanced when a Financial Consultant can provide the context in how that research should be used." Merrill Lynch used this free research offer to acquire new customers. By early January 1999, out of 90,000 AskMerrill registered users, more than 2,000 became new Merrill brokerage clients.[20]

Senior Merrill Lynch management were skeptical of online brokerage, publicly stating that online trading encouraged customers to speculate – to the dismay of even their nearest and dearest. After Steffen's July 1998 warning against the "do-it-yourself model of investing," his son, a Merrill broker in North Carolina, called and asked his father to "get his act together."[21] Eventually, online trading proved too compelling for Merrill Lynch to resist. In February 1999, Merrill Lynch acquired D.E. Soft, a technology unit of D.E. Shaw,[22] that had developed an online trading system. On the day of the announcement, Merrill's stock rose four points. The following month, Merrill debuted an online trading service for roughly 1% of its clients with at least $100,000 in fee-based accounts.

On June 1, 1999, Merrill announced its plan to augment its traditional offerings with an online trading service, either through a fee-based or a discount-commissioned account **(Exhibit 11)**. "Merrill realizes they have to compete. It's easier to maintain relationships than it is to draw customers back after that customer has left," observed an analyst at Tower Group, financial technology consultants.[23] In July 1999, Merrill began offering "Unlimited Advantage, " which

[20] *The Wall Street Journal*, January 6, 1999.

[21] Charles Gasparino and Rebecca Buckman, "Facing Internet Threat, Merrill to Offer Trading Online for Low Fees," *Wall Street Journal,* June 1, 1999.

[22] D.E. Shaw was a private securities and investment firm specializing in the intersection of technology and finance. David E. Shaw founded the firm after receiving a Ph.D. from the Stanford Computer Science Department.

[23] Ed Kountz quoted in *The Star-Ledger*, June 2, 1999.

charged a 0.2% to 1% annual flat fee starting at $1,500 and provided full service, including unlimited trading – online or off-line. By the end of 1999, Unlimited Advantage had attracted $70 billion,[24] of which $9 billion were new to the firm. It launched Merrill Lynch Direct, a discount online trading service featuring $29.95 trades, in December 1999. By June 2000, Merrill Lynch Direct attracted $2.7 billion in client assets. The array of services allowed clients to choose their preferred level of advice (with a financial consultant, self-directed, or delegated), access (person-to-person, online, or by phone), and pricing (a la carte, or as a percent of assets). By the end of 1999, Merrill Lynch had 721,000 online accounts, and 22% of its US Private Client assets were online.

Transition and Future

Incorporating online services had been difficult and had required the right timing. Chief executive David H. Komansky and chief strategist Jerome P. Kenny, who both started at Merrill Lynch as brokers, had argued that the firm needed to wait until its brokers accepted the new reality of the online world. After the roll-out, Merrill estimated that if it had initiated online trading earlier, 75% of the brokers would not have supported it. Merrill would have risked losing both its brokers and the assets they managed.

With more than 14,000 commissioned brokers, Merrill had faced a more difficult transition to a new compensation model than Schwab did with its 7,000 salaried brokers. Steffens, who led the transition, explained the new strategy to brokers. He reminded brokers how, in the 1960s, GM assumed that consumers would not buy inexpensive Japanese cars and continued to produce only big expensive vehicles. The result: GM had to close 50 to 100 plants and fire 20,000 employees. "I didn't want us to be in the same position. Telling these clients to go to someone else is not a good idea."[25] The new strategy also put Merrill Lynch's earnings at risk. While retail commissions constituted only 10%-15% of Merrill's earnings, the company estimated that Merrill Lynch Direct could cost $1 billion in equity commissions. Kenny, however, believed that that increases in client assets would more than offset the loss.

To meet the challenge, Merrill started to restructure its entire business – from research through brokerage to asset management. Kenny said, "We concluded that the firm has to be converted to an Internet-based firm." Komansky put it differently: "We will take the capabilities of Web technology and use it wherever we can to improve our business life." Through 2000, Merrill aggressively rolled out a banking extension to the CMA account, where assets are swapped into a Federally-insured bank instead of a money-market fund — while still paying attractive money-market rates. In April 2000, Merrill announced a joint venture with global banking giant HSBC to provide Internet-based banking and investment services outside the US. As Merrill Lynch CEO David Komansky put it, the new company, headquartered in London, would be "the first global online banking and investment services company, reaching an online active investor market that is expected to grow to 50 million households across Europe, Asia Pacific, and Latin America in the next decade." In May 2000, Merrill's Private Client Group (its retail brokerage arm) was reorganized, and the unit's customer-focused businesses were combined into a Client Relationship Group, with channel-specific units reporting to the new Group. Both the Private Client Group and the Client Relationship group were headed by executives who had never been

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[24] According to Merrill Lynch, Unlimited Advantage assets grew 20 times faster than Merrill's earlier fee-based offerings.

[25] "Merrill's E-Battle," *Business Week*, November 15, 1999.

brokers themselves. The rationale for the change was that "the unit needed to be more effective in segmenting its client base by offering tiered services across different channels."[26]

To implement its strategy, Merrill formed partnerships with companies such as Microsoft, Multex, Medialink.com, Standard & Poor, Intuit and Works.com to provide marketing, content and e-commerce services. It also entered the media business with the launch of its Global Investor Network (GIN), an in-house video news service. GIN hired broadcast journalists to anchor news reports, cover business segments and broadcast Merrill's morning call, where analysts talked about the upcoming day – a meeting that used to be open only to institutional investors. Without any promotion, GIN garnered 7,000 hits a day by late 1999.

To build customer loyalty, Merrill also offered an extensive array of e-commerce services. Companies such as Barnes & Noble, eToys, reel.com, and cooking.com signed up to sell products through Merrill's portal. The company offered Merrill Visa Signature cards, which – along with the CMA – provided a convenient payment system for its clients. Komansky explained:

> We are trying to build relationships. We are trying to attract clients to capture as many of their assets and as many of their commercial transactions as possible. Not necessarily to earn a profit on these. We are trying to create a financial portal, and you have to have things to attract them. When somebody wants to go to Amazon.com or any other portal, we are competing.[27]

By the end of 1999, Merrill offered more than 4 million products in its e-commerce offering and had issued 500,000 Visa Signature cards whose owners spent $6.6 billion.

Merrill Lynch's institutional business faced an even more competitive environment.[28] At year-end 1998, 26% of institutional equity trading was executed electronically and it was expected to reach 44% by the end of 2000. Merrill Lynch bought a stake in the Archipelago ECN and participated in multi-dealer systems such as Securities.Hub, a marketplace linking dealers and institutional clients for securities offering, trading and information sharing. As of year end 1999, Merrill was also developing an institutional portal that would enable corporate treasurers to do most of their business with Merrill at one website with one password.

Merrill's Broker Force

In 1999, Merrill Lynch had 15,000 brokers -- the largest US broker force. An average broker at Merrill generated $410,000 in annual commissions and maintained $84.5 million in assets. Merrill was the first full-service brokerage to change its broker organization fundamentally in response to the Internet and other industry forces. In early 1999, brokers began to receive bonuses mainly for asset gathering from high-net-worth households into a defined set of products and services. Merrill designed its compensation plan "to provide a greater degree of alignment" between broker pay and the firm's strategy to meet client needs. "There's no such thing as a straight transaction," said a recruiter about Merrill's plan. "Everything is tied together and production is almost irrelevant."[29]

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[26] "Merrill Taps Another Nonbroker To Help Run Brokerage Business," *Dow Jones Newswires*, May 26, 2000.
[27] "The Winds of Change Are Upon Us," *Business Week*, November 15, 1999.
[28] At the end of 1999, 48% of assets under management at Merrill Lynch were institutional (52% were retail).
[29] "Broker Compensation Ups and Downs," Pamela Savage Fobat, *Registered Representative*, February 1999.

Under Merrill's plan, brokers received a 25% payout on the amounts they produced; additional amounts were deferred until brokers reached specified production goals or years of service. Brokers could also earn an annual bonus based on net new growth in accounts with a minimum of $250,000 in combined assets and credit products. The bonus increased if the account grew to $1 million (and increased even more for $2.5 million), or if the client invested in a defined set of products.

Whereas Merrill Lynch's compensation plan credited brokers for asset gathering and commissions in the firm's online accounts, it expected the new pricing structure to reduce the payout to those brokers who were paid chiefly on commissions. To ease the transition, Merrill gave brokers gap payments, in cash and deferred compensation, through the first half of 2001. The firm planned to increase the number of its brokers to 20,000 by 2002. However, between June 1999 and March 2000, Merrill lost more brokers than ever before. Many of those who left were the established, commission-producing brokers whose clients had larger asset bases. Christos Cotsakos, E*Trade's CEO, described Merrill's situation:

> This isn't about E*Trade saying "Boot your broker." This is Merrill booting their own brokers.

MORGAN STANLEY DEAN WITTER DISCOVER & CO.

Morgan Stanley Dean Witter Discover (MSDW) was the product of the 1997 merger of the white shoe Morgan Stanley and its scrappier competitor, Dean Witter Discover. The latter was itself the product of a merger between broker Dean Witter and Discover, the financial services company that offered the Discover credit card. By late 1999, MSDW was offering financial services and products ranging from traditional brokerage and asset management to mortgage loans and insurance. (**Exhibit 13** shows the firm's income statement).

Dean Witter was an early mover in online brokerage. In 1996, it acquired Lombard Brokerage, Inc., a San Francisco-based Internet securities transaction firm. Lombard was founded in 1992 as a discount brokerage that offered trading over the phone. In August 1995, Lombard enabled its customers to place orders over the Internet through its own website. By the time of its acquisition by Dean Witter, Lombard had $30 million in annual revenue and 45,000 accounts. It charged $14.95 for electronic trading.[30] The company won Barron's "Best Online Broker" awards in 1996 and 1997.

Dean Witter kept Lombard at arms-length from its full-service brokerage. In June 1997, soon after the merger of Morgan Stanley and Dean Witter, MSDW renamed Lombard "Discover Brokerage Direct" (DBD).

Sibling Rivalry

Dean Witter kept its Internet brokerage operation separate from its core business. Dean Witter's 9,000 retail brokers were concerned about the Lombard acquisition, but the firm's executives insisted that its brokers had nothing to fear from the new entity, which would be "totally separate

[30] For up to 5,000 shares.

and distinct" from Dean Witter's brokerage business. "Lombard reaches customers we don't reach in our traditional securities business," said Philip Purcell, Dean Witter's chairman and CEO. The company said that according to its extensive research, self-directed customers who used the Internet for securities transactions comprised a separate market segment, distinct from the full-service brokerage clientele. Full-service brokers hoped that new techno-savvy investors would turn to traditional brokerage once their asset levels increased.

Until 1999, the brokerage had done little to publicize its online trading unit and had no plans to link MSDW's full-service accounts with Discount Brokerage Direct. DBD did not use the Morgan Stanley or Dean Witter names, because management believed online brokerages appealed to a demographic group that had more in common with Discover cardholders than with full-service brokerage customers. "Using the Morgan Stanley Dean Witter name for the discount service could be viewed as diminishing the value of your brokers and of that brand," explained Scott Appleby, who followed online brokers for ABN Amro Inc. "It's much more difficult if I'm a broker and I'm providing this value-added service, and I turn around and my client can get a trade for $16" from the same company.

The TV commercials of online brokerages like E*Trade, Ameritrade and Datek played to their clientele's attitudes and often ridiculed traditional brokers. In contrast, DBD's TV campaigns focused on the ability of the man on the street to make quick profits, without alluding to the contrast between traditional and online brokerage. "I don't think we would ever do that, for obvious reasons," said John Yost, a founding partner of Black Rocket, the San Francisco ad agency that Discover used.

After the acquisition, DBD began to lose ground to E*Trade, despite Lombard's reputation for having a more reliable Website and trading engine. Industry experts said that DBD's uneasy coexistence in the same organization with an army of full-service brokers who made their living charging hundreds of dollars per trade had constrained its growth.

This uneasiness was reflected in the way DBD customers received access to two of MSDW's most prized possessions, Morgan Stanley research reports and IPOs. Morgan Stanley was a recognized Internet economy leader; its analysts, including Mary Meeker, were influential in the online world; and it was a lead underwriter in many of the Internet's top IPOs such as Netscape, Priceline, and Akamai Technologies. DBD began offering its clients stock research in summer 1998 in response to competition from other online brokerage firms. But DBD charged clients an extra $4.95 a month for information on one company and $34.95 a month for 40 companies (full-service clients got the reports free). The DBD research reports were edited versions called "Discover Brokerage Equity Research;" only footnotes revealed that Morgan Stanley analysts had prepared the reports. Moreover, the DBD website section on research said only that the reports came from "a leading research institution." Thomas O'Connell, President and CEO of DBD, explained that the firm did not want to upset the Dean Witter brokers by making their research seem like a cheap commodity. "We don't want to do something to make life hard for them."

As an underwriter of IPOs, Morgan Stanley had curried favor with the Internet community, which had produced some of the most impressive stock debuts in recent years. Morgan Stanley handed over IPO shares of Ziff-Davis and Priceline.com for resale to online underwriters E*Trade and Wit Capital Group Inc. while denying those same shares to its own online

customers at DBD. In late April 1999, with E*Trade and Wit having their own IPO programs, Morgan Stanley finally announced plans to give DBD customers with at least $100,000 in assets limited access to IPOs.

Transition and Future

By July 1999, MSDW decided to change its approach. DBD's O'Connell explained:

> We learned that customers of online brokerages are the same people as the customers of full-service firms. We also learned that the concept of online brokerage as a distinct business from broker-based business really isn't true. It's just a different perspective. The Internet allows the customer to control the data… the broker's value is in the advice, not handling the transaction or the data.

Company officials conceded that the sibling forms were competing for the same business.

On October 20, 1999, MSDW unveiled its new service platform, *iChoice*, including a fee-based account and a self-directed account with online-trading in addition to the traditional full service account **(Exhibit 11)**. DBD was rechristened Morgan Stanley Dean Witter Online, offering $29.95 online-trading. DBD customers were given a grace period on their lower fee ($14.95 for market orders up to 5,000 shares) before they had to switch to the new, more expensive platform. The fee-based account, *Enhanced Choice*, offered advice and unlimited trading with a minimum annual fee of $1,000. The fees varied depending on size of assets, type of investments, and level of service required. While the posted fees were higher than at other brokerages (30bp to 2.25%), brokers negotiated the actual fees with individual clients. As one broker put it, "Here they give you flexibility to price the client where you were pricing them before."

Morgan Stanley Dean Witter Online was up and running one day after its announcement. MSDW's stock surged 16% on the news, compared to the 14% price plunge after Merrill announced its cyber-trading plan in June 1999.

MSDW's management was pleased with the asset and customer growth in the iChoice accounts. MSDW had a record quarter after it implemented iChoice, with 70-80% of new asset flows into iChoice coming from relationships new to the firm. Moreover, existing clients who switched to the fee-based Enhanced Choice account became more profitable for MSDW than they had been under the commission-based structure.

MSDW's Broker Force

By the end of 1999, MSDW had a broker force of over 12,000, second only to Merrill Lynch. MSDW brokers generated an average of $325,000 in commissions, with assets per broker of $43 million. When MSDW rolled out iChoice, the average traditional Dean Witter commission was about $175.

When it rolled out the iChoice program in October 1999, MSDW was sensitive to its brokers' concerns. Fees on the "Enhanced Choice" account were higher than those Merrill charged, so MSDW brokers might not lose as much income. Also, MSDW brokers received a $3 cut of each $29.95 online trade if they opened the account or if the customer let them monitor it. Brokers had input into the development of the iChoice strategy, and most of them understood that MSDW had

to adapt to the competitive environment. As the Internet came to be seen as a mainstream medium for investing rather than a discount outlet, brokers became more willing to offer online trading as part of their full-service menu. MSDW officials said brokers wanted to add more Internet services and weren't antagonistic about the new online program. When company president John Mack first toured Dean Witter branch offices in 1997, he observed, "There (were) real questions, fear, anger" about the Internet. "Now, when I go into the branches, the question is, when are we going to be online?"

In the late 1990's, MSDW expanded its army of US brokers more than twice as fast as Merrill Lynch. The number of MSDW brokers jumped 28% between 1995 and 1999, and was expected to reach 18,000 by 2005. [31]

James Higgins, President of MSDW's brokerage operation, considered the notion that the "broker is obsolete" hogwash. When customers' assets hit about $100,000, "over 80% of them look for some guidance in terms of financial advice." Higgins also stated, "we are not targeting any one competitor…but we are not going to take a back seat to any of our peer competitors, or the e-brokers or the discounters."[32]

PAINEWEBBER GROUP INC.

PaineWebber Group, founded in 1879, was one of the largest and best-known full-service securities firms in the US. By 1999, it was the nation's fourth-largest brokerage. Its primary mission was to serve the investment and capital needs of individual and institutional clients through its broker-dealer subsidiary.

In the early 1990s, PaineWebber made several choices that defied conventional wisdom. While other financial giants began offering everything from investment banking to insurance, PaineWebber stayed small. Its 1999 net revenues of $5.3 billion were only 10% larger than MSDW's profits of $4.8 billion. PaineWebber also remained focused on the domestic market (95% of 1999 net revenues were from the US) and retail segment (76% of 1999 net revenues came from individual investors) (
Exhibit 14).

PaineWebber targeted the high-end market. Donald Marron, its CEO since 1980, said: "Our strategy has been to be in the center of the flow of household assets from the more affluent segment of the population," defined as customers with $100,000 in income or $500,000 in net worth, excluding their primary residence. This segment was expanding at 9% a year. In 1998, the "affluent segment" owned 56% of the $18 trillion in investable assets in the US. According to PaineWebber's director of retail marketing, US investable assets would increase to $28.8 trillion by 2003, and the "affluent segment" would own more than three quarters of them.

PaineWebber's strategy was successful. The firm built client assets that grew at an annual compound rate of 24% from 1994 to 1999, and by the end of 1999, it had gathered $423 billion (**Exhibit 10**). PaineWebber's broker force was an integral part of the firm's success.

[31] In the twelve months ending February 29, 2000, the number of brokers increased by 1,619.
[32] *The Wall Street Journal*, November 24, 1999.

PaineWebber brokers brought in average revenue of over $400,000, one of the highest averages in the industry. Its securities-trading and investment-banking divisions were small. PaineWebber's stream of fees plus interest earnings covered all of its fixed expenses, so that commissions, investment banking fees and other revenues could fatten the bottom line. Between 1997 and 1999, commissions were 36%-38% of net revenues. Much of PaineWebber's success came from the rapid accumulation of fee-bearing assets. At the end of 1999, 40% of PaineWebber's client assets were fee-based, with 28% of them in "wrap" accounts, in which investors paid a fixed annual fee for all investment services, thereby generating recurring revenue.

Research was another PaineWebber strength. PaineWebber consistently ranked in the top ten of *Institutional Investor*'s All America Research Team. According to The *Wall Street Journal*'s July 1999 quarterly study of the performance of stocks that fifteen major brokerages recommended, PaineWebber had the best performance over a five-year period, with returns nearly double those of Merrill Lynch and MSDW.

In July 2000, UBS AG, the world's largest private bank, acquired PaineWebber for $10.25 billion — almost 50% above its pre-announcement value. The takeover, which left PaineWebber's management structure intact, combined the international reach of UBS's commercial and investment-banking businesses with PaineWebber's US retail-brokerage operations while sustaining the companies' mutual emphasis on high net-worth clients.

The Internet

PaineWebber used the Internet to communicate with its clients. In early 1997, PaineWebber introduced its online client service, PaineWebber Edge, which provided detailed account tracking, research and broker interaction. By the end of 1999, Edge served 176,000 households with assets of $140 billion, a third of the assets PaineWebber controlled.

In 1999, PaineWebber rolled out InsightOne, an asset-based fee account that offered clients unlimited online trading and a channel to all the firm's technology and services. Clients needed to have $100,000 in their accounts and pay fees, negotiated with their brokers, of 0.75% to 2% of assets with a minimum annual fee of $1,500 **(Exhibit 11)**. InsightOne was part of a bundled service with pricing schedules negotiated up front. Service schedules were custom-designed and priced according to the level of service and attention the client desired. InsightOne drew $1.7 billion in assets in its first six weeks. To the firm's surprise, the most eager adopters of the new online platform were its wealthiest clients—those with an average of $800,000 in assets and aged in their 50's. Unlike Merrill Lynch and MSDW, PaineWebber opted not to offer discounted self-directed trading.

PaineWebber also used the Internet to penetrate what it called the "emerging affluent" market – high-income individuals under age 40 who were building (rather than preserving) wealth. About a quarter of these individuals' wealth was in 401(k) and stock benefits plans, and most of them traded online and did not want a broker's advice. To tap this market, PaineWebber provided employers like Cisco, Dell, General Electric, and Aetna employee benefit plans to manage 401(k) retirement plans and company stock options. PaineWebber put together an Employee Services Portal offering online tools, stock quotes, PaineWebber content, and alerts. Employees could also access an automated voice response system or salaried customer service representatives. PaineWebber used the service to create a relationship with these employees, to mine data about

their investment behavior, and to use the resulting profiles to "hand them off" to a broker when they were ready to become regular PaineWebber customers.[33] PaineWebber hoped that this service would give it an entrée into the ranks of the newly paper-rich when they "graduated" to become advice-seeking affluent. PaineWebber expected to have a million employees enrolled in this program by the end of 2000.

PaineWebber's Broker Force

By the end of 1999, PaineWebber's broker force had reached 7,500, almost a 40% increase in five years. PaineWebber brokers were among the most productive financial advisors in the industry, with an average retail production per broker exceeding $400,000 and assets per broker of over 60 million.

The Internet changed PaineWebber. Its president Joe Grano tried to change the company from an army of commission-based brokers to an organization of asset-gatherers and advice-givers. Grano said, "The only thing that changes a culture is pain and agony. And reading in the newspaper every day about extinction of old-time broker has caused plenty of motivation."[34]

CEO Marron stated that the firm had been trying to transform its brokers from order takers into asset gatherers, then into asset allocators and in some cases, asset managers. Through the stages, the brokers' business became steadier, more lucrative, and better aligned with clients' needs. In the late 1990s, PaineWebber adjusted how it paid its brokers to reward them for gathering and retaining assets and for increasing the firm's share of the customer's wallet.

In 1999, PaineWebber offered its brokers both a carrot and a stick to promote asset gathering. Brokers could earn back an across-the-board 1% payout cut for the year—plus another 1%—if they surpassed new asset hurdles. The cash bonus depended on the net new assets brokers brought in,[35] the current asset level they managed, and the broker's years of service. Brokers who started the year with at least $150 million in assets earned the minimum 25 basis-point bonus by bringing in at least $6 million in net new assets. It took $15 million in net new assets to earn back the 1% payout cut and $27 million to max out at 2%.[36] Brokers who started the year with less than $150 million in assets faced a complicated bonus formula based on a percentage of their 1998 assets and a minimum net asset hurdle based on length of service.

Some PaineWebber brokers liked the firm's emphasis on rewarding assets, but not how it structured the reward. "Asset targets are nice to have," said one broker, "but for bigger producers they're giving us a lot to gather in one year and still maintain current business. I think the firm will find it's unrealistic." Another broker found the new bonus structure discouraging: "The way the firm is doing it is so convoluted. It's confusing to have more than one way of getting paid on assets. It's not motivational."

Like Merrill Lynch, PaineWebber also had new incentives to place client assets in fee-based products. Gone was the bonus on assets under control. Brokers would only get a bonus on assets in PaineWebber's fee-based products and services, such as central asset accounts, wrap accounts,

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[33] By February 2000, 139,000 employees were sponsored into these accounts. Their unexercised stock options were worth about $37 billion at that time.

[34] "Street Smarts: PaineWebber's strategy of courting the rich may pay handsomely," *Barron's*, November 22, 1999.

[35] The assets had to be new to the firm and could not include dividends, interest or market appreciation.

[36] The bonus was capped at $40,000.

trust accounts, and IRAs. However, to prevent brokers from defecting following PaineWebber's acquisition by UBS, the company put together a retention plan paying top-producing brokers 35% of their trailing 12 months of commissions annual production in restricted stock, plus stock options; lower-producing brokers received a lower percentage of the amounts they produced.

EPILOGUE

One of the celebrated effects of the Internet was putting the customer in charge. As Merrill's brokerage chief Launny Steffens put it:

> In everything we do, two principles of the digital age should be kept in mind: clients are smart and the world is transparent… A total financial relationship is not about trying to control clients or push proprietary products—that is a failed proposition in a world of transparency and smart investors. Instead, it is about adding real value for clients by delivering the right set of products and services to simplify their lives and help them make better financial decisions.[37]

This threatened the traditional broker. Indeed, unlike RIAs, who used the Internet extensively and largely believed that it aided their business, only 38% of full-service brokers believed the Internet helped their business, and their use of the Internet was sparse **(Exhibit 15)**.

Yet, even at the dawn of the 21st century, full-service brokerages spared no expense to compete for proven brokers. When PaineWebber set out to recruit a top-producing team of four Merrill Lynch brokers in Michigan, it flew them to New York first class, and over dinner at the Waldorf-Astoria Hotel, PaineWebber's brokerage chief made them an offer they couldn't refuse: a signing bonus of $5.25 million, plus $2 million more if they brought more customers to PaineWebber.[38]

Intense competitive pressures to gather client assets led full-service brokerages like PaineWebber, Salomon Smith Barney, Prudential Securities, and Merrill Lynch to increase upfront signing bonuses and give brokers other perks. Brokerages continued to provide incentives to sell in-house products, and Morgan Stanley Dean Witter brokers said they were under constant pressure to sell the firm's proprietary mutual funds.[39]

The Tully Commission's recommendations to ban such practices in order to align brokers' incentives with their clients' were so disregarded that the industry's self-regulatory body, the National Association for Securities Dealers, proposed new rules to enforce them. Full-service brokerages cited competitive pressures and the flow of investor dollars to online trading firms as reasons for ignoring the recommendations, and some firms said they never formally agreed to adopt them.[40]

The *Wall Street Journal* described a recent dinner honoring Mr. Tully. Speaker after speaker praised his contributions to the industry, culminating in the Tully Commission. James Higgins, who headed Dean Witter's brokerage unit, "graciously thanked Mr. Tully for his years of service to the industry, including his crowning achievement, the Tully Commission Report. Then, pointing to Merrill's brokerage chief, Mr. Steffens, he said to hearty laughter from the crowd: 'By the way, Launny, if you have a minute, you should read' the Tully Report."[41] Messrs. Higgins and Steffens declined requests to comment on the incident.

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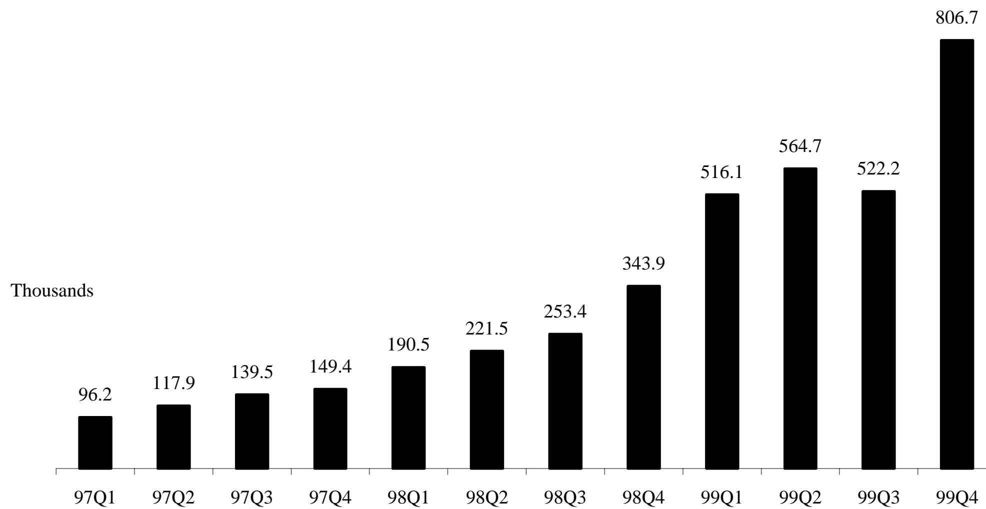
[37] Speech at the Securities Industry Association's meeting, Boca Raton, Florida, November 1999.
[38] *The Wall Street Journal*, March 28, 2000.
[39] Ibid.
[40] Ibid.
[41] Ibid.

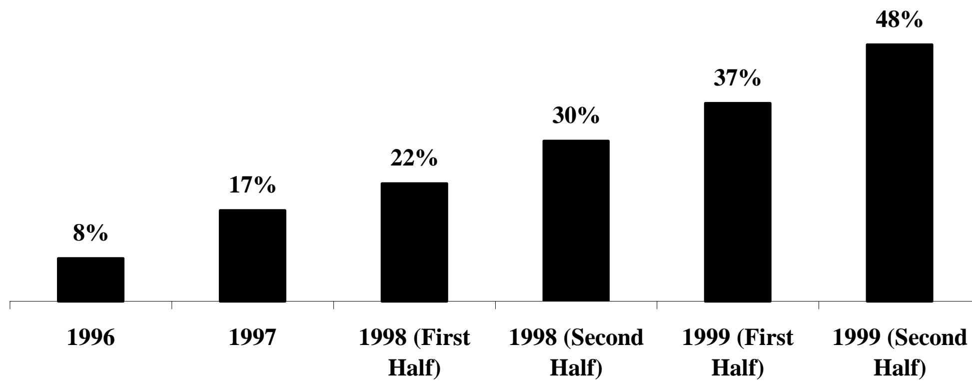
Exhibit 1

(a) Average Number of Daily On-Line Equity Trades in the United States



Compiled from U.S. Bancorp Piper Jaffray reports

(b) Share of On-Line Trading in US Individual Investor Trades



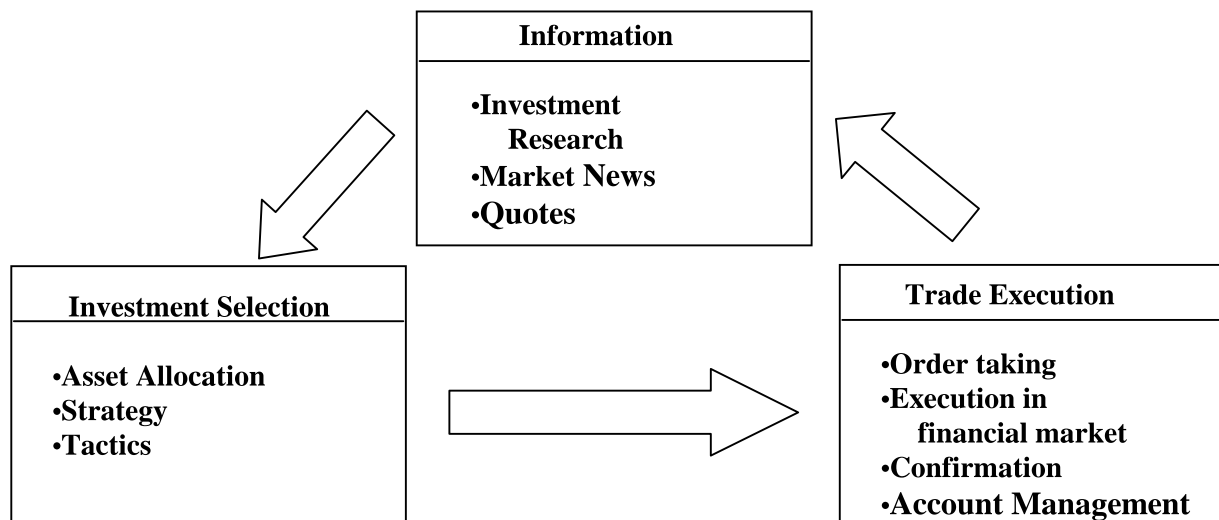
Compiled from Securities Industry Association and U.S. Bancorp Piper Jaffray reports.

Exhibit 2
US Online Brokerage Functionality Comparison
(Discounted Accounts for full-service brokers)

Company Name	Stock Commission (1000 shares) Market	Limit	Number of Mutual Funds Offered	Banking Services: Check Writing	ATM/ Debit Card	Online Bill Payment	Institutional Research	IPOs
Datek	9.99	9.99	7,000	x	-	-	-	-
E*Trade*	14.95	19.95	5,000	x	-	-	BancBoston RS	E*Offering
Charles Schwab*	29.95	29.95	1,650	x	x	x	CSFB, Hambrecht & Quist	CSFB, Hambrecht & Quist, Schwab
Merrill Lynch	29.95	29.95	2,500	x	x	x	Merrill Lynch	Merrill Lynch
Morgan Stanley Dean Witter (Discover Brokerage Direct)	29.95 (14.95)	29.95 (19.95)	5,000	x	-	x	MSDW	MSDW
PaineWebber	NA	NA	NA	x	x	-	PaineWebber	PaineWebber

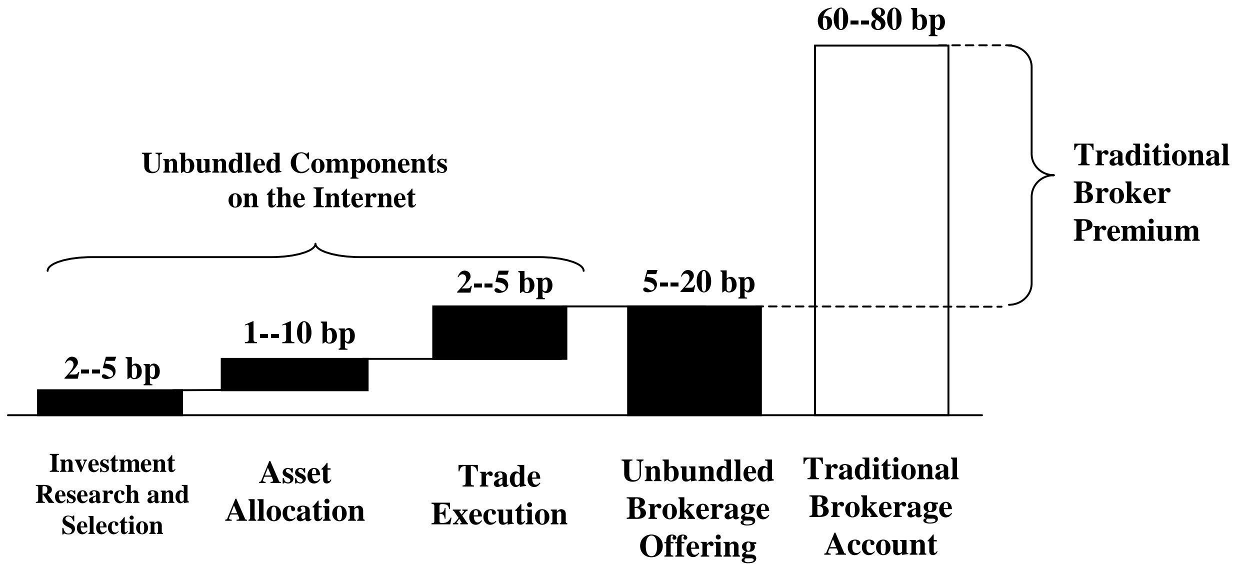
Numbers as of the end of 1999.
Online commission price for Morgan Stanley Dean Witter is effective October 1999.
Online commission price for Merrill Lynch is effective December 1999.
Compiled from: Company Websites, Morgan Stanley Dean Witter Research, The Wall Street Journal
* Discount provided for active traders.

Exhibit 3

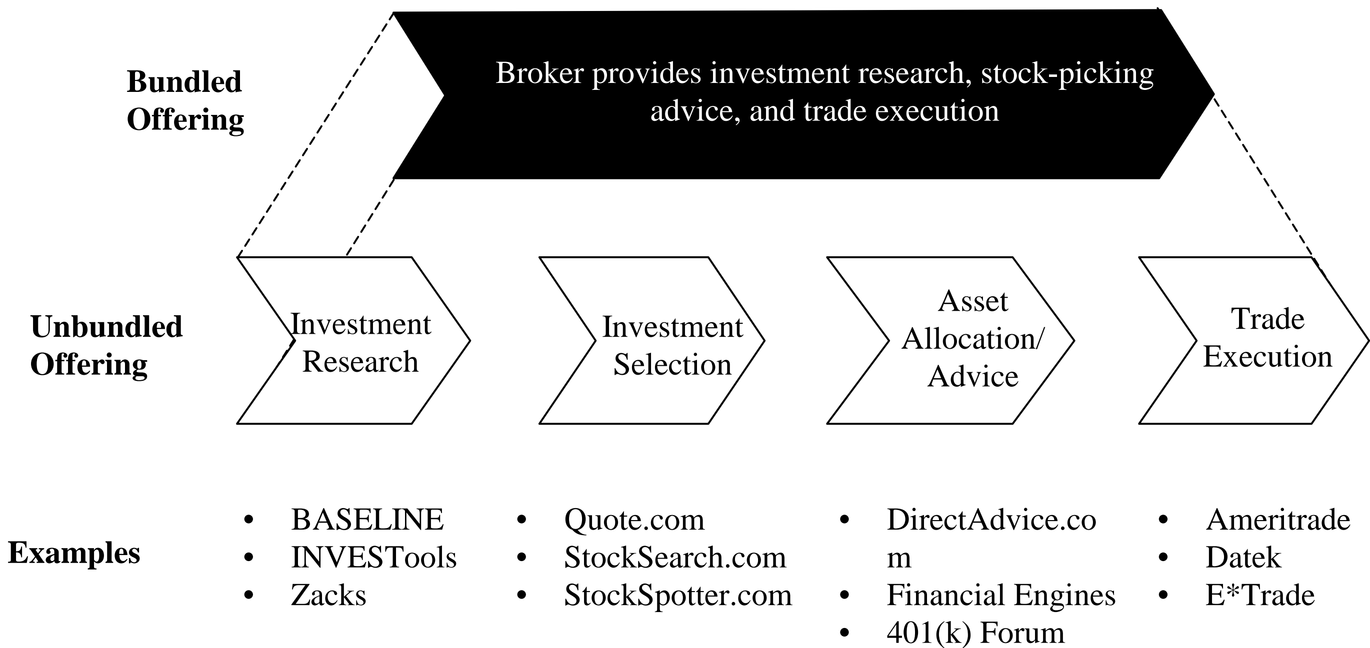


Source: Dewan and Mendelson

Exhibit 4
(a) Average Fees for Unbundled (Internet) Brokerage Offering Versus Traditional Brokerage Accounts



(b) Unbundling of Stock Brokerage Product Offering



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Corporate Executive Board. "The Final Frontier: the Opportunities and Challenges of Internet Delivery", page 16., 1999, Washington D.C.

Exhibit 5

Forrester Research segmented investors into four distinct types in its Technographics (TM) research:[42]

1) ***Active Affluent (AA)***

These young, middle-aged investors possessed the highest household income and net worth. They were well-educated and took investing seriously. Most would analyze their investments and rely on information from traditional sources, such as financial magazines and TV. Of the AA, 73% were online, and they tended to integrate the web into their existing research processes. Most AA were self-directed and risk-tolerant, but some were opinion-seeking. Although many strongly preferred to transact online, most still used the phone to trade.

2) ***Active Moderate-Wealth (AMW) – "Get Rich Quick"***

These young, moderate-to-high-income, well-educated investors grew up with the Internet. Being young, AMW investors had a lower net worth, were risk-tolerant, used fewer sources of information and were strongly self-directed. They found advice from financial advisors less valuable than other segments – and could not afford it. More than other groups, AMW used software and the Web to track their investments, and they were the most frequent traders. Forrester Research characterized this segment as "Get Rich Quick."

3) ***Buy-and-Hold Affluent (BHA)***

The oldest investors had built their hefty net worth over decades of savings. BHA were the most risk-averse and the least self-directed segment. Electronic media played a negligible role in how BHA invested. They relied on paper statements and calls to their brokers. Most BHA investors were fully dependent and considered advisor recommendations critical for their investments. Despite their six-figure portfolios, this group traded infrequently. Once they did, they preferred in-person transactions, either face to face or with a live agent on the phone.

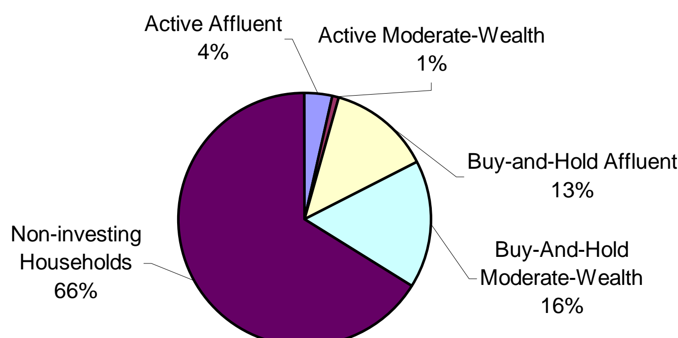
4) ***Buy-and-Hold Moderate-Wealth (BHMW)***

The true mass market, BHMW were average, middle-class American families and accounted for nearly half of all investors. They described themselves as least sophisticated and adhered to a get-rich-slowly strategy. Most BHMW were opinion-seeking, but they had to settle with being self-directed, largely because they could not afford professional advice. They made investment choices based on a few simple criteria and ignored daily market fluctuations. Thus, the Web and other real-time information sources played a minor role in their investments. BHMW traded less than once a year on average, and they mostly owned mutual funds. A few transacted online, but most preferred to make their transactions in person – face to face or on the phone.

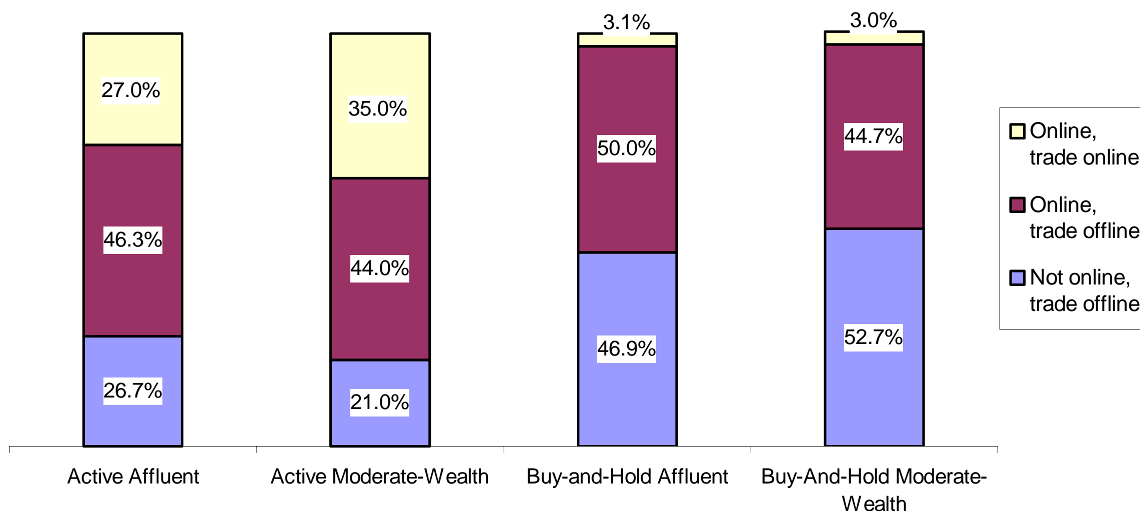
[42] "Which Investors Matter Online?," Forrester Research, Inc., November 1999. Forrester called the four categories Aggressive Affluent, Get Rich Quick, Portfolio Cruise Control and Retirement By The Book. Technographics is a registered trademark of Forrester Research, Inc.

Exhibit 6
SEGMENTATION OF US INVESTORS

Percentage of Investor Segments (U.S. Households)



Percentage Online and Trade On/Off-line of Four Investor Segments

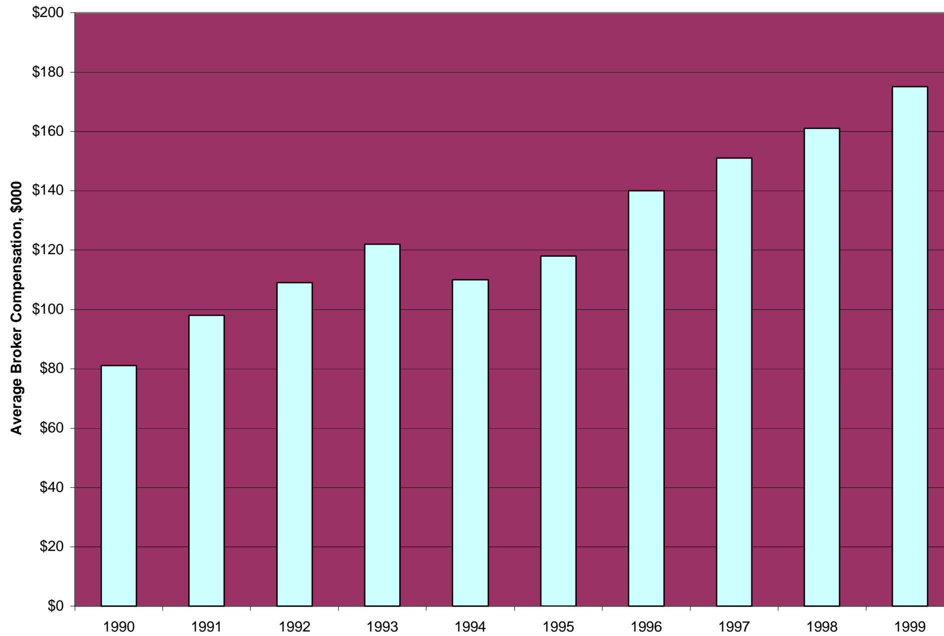


Profiles of Investor Segments

	Active Affluent	Active Moderate-Wealth	Buy-and-Hold Affluent	Buy-And-Hold Moderate-Wealth	Non-investing Households
Mean age	48.5	37.4	52.0	44.0	47.0
Mean househfold income	$ 76,000	$ 56,000	$ 64,000	$ 46,000	$ 37,000
Mean net worth	$ 432,000	$ 48,000	$ 365,000	$ 54,000	$ 85,000
Mean stock assets	$ 186,000	$ 21,000	$ 70,000	$ 11,000	$ -
Percent male	71.7%	75.0%	55.5%	52.7%	48.4%
Mean trades per year	10.28	10.85	1.50	0.93	N/A
Percent online	73.3%	79.0%	53.1%	47.7%	29.4%

Source: Forrester Research, Inc., 1999.

Exhibit 7
AVERAGE FULL-SERVICE BROKERS' ANNUAL COMPENSATION, 1990-1999



Compiled from : SIA and The Wall Street Journal.

Exhibit 8
A Full-service Brokers' Compensation Structure in 1995 and 1997

Compiled from results of *Registered Representative* surveys of full-service brokers' compensation structures. The chart shows the percentage of brokers subject to each of the listed compensation structures in 1995 and 1997.

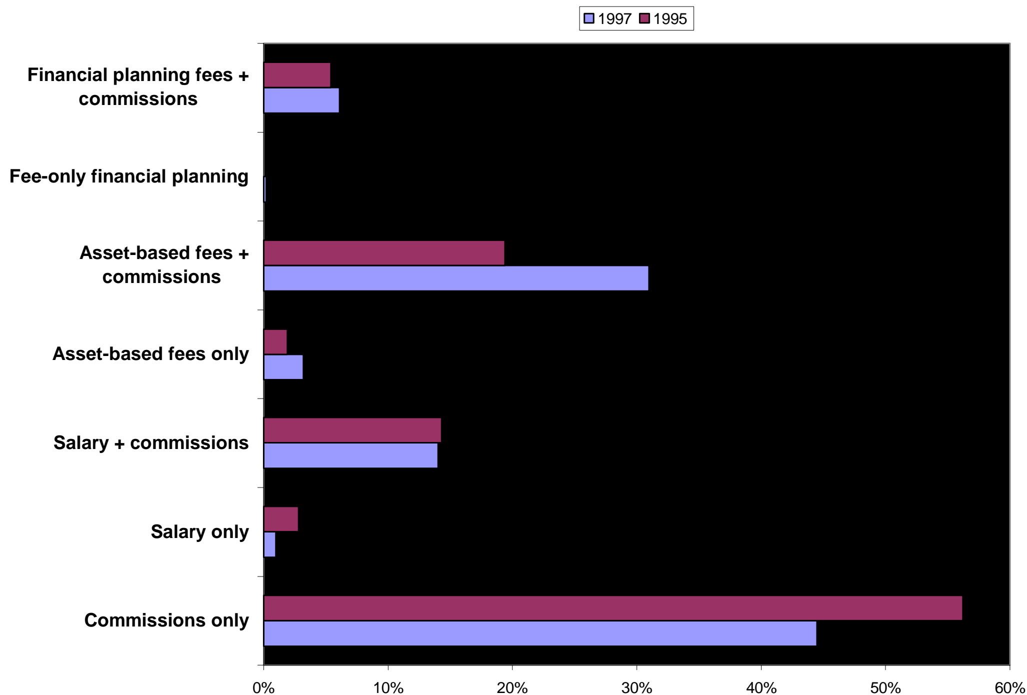


Exhibit 9

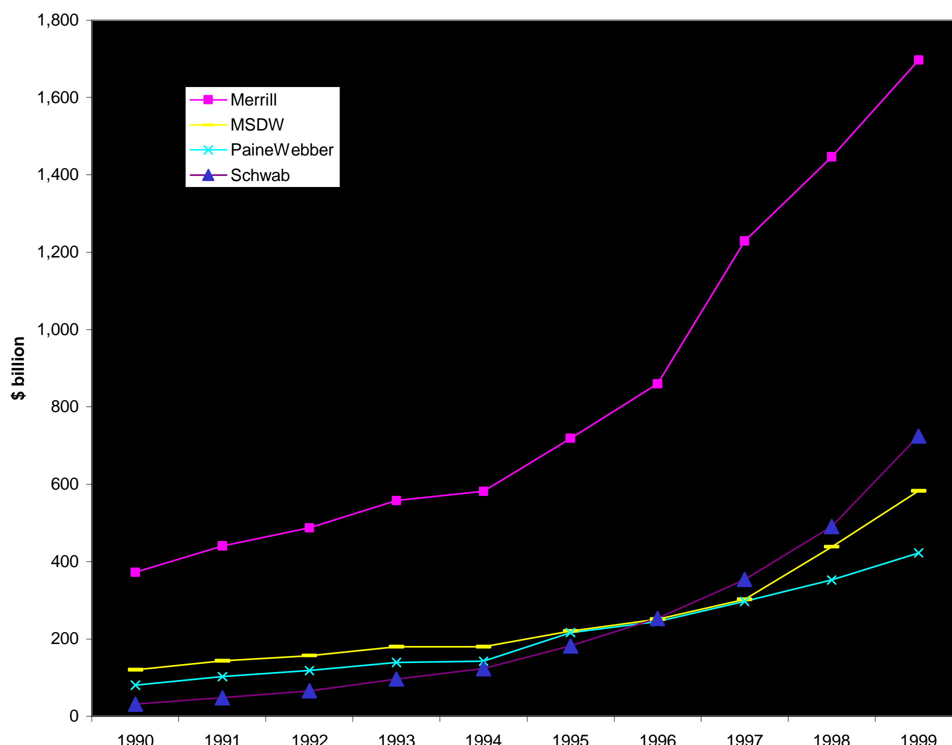
Charles Schwab Corporation
Consolidated Statements of Income
(In Thousands, Except Per Share Amounts)

Year Ended December 31,	1999	1998
Revenues		
Commissions	$ 1,863,306	$ 1,309,383
Mutual fund service fees	750,141	559,241
Interest revenue, net of interest expense of $768,403 in 1999, $651,881 in 1998 and $546,483 in 1997	702,677	475,617
Principal transactions	500,496	286,754
Other	128,202	105,226
Total	3,944,822	2,736,221
Expenses Excluding Interest		
Compensation and benefits	1,624,526	1,162,823
Occupancy and equipment	266,382	200,951
Communications	265,914	206,139
Advertising and market development	241,895	154,981
Depreciation and amortization	156,678	138,477
Professional services	151,081	87,504
Commissions, clearance and floor brokerage	96,012	82,981
Other	171,095	125,821
Total	2,973,583	2,159,677
Income before taxes on income	971,239	576,544
Taxes on income	382,362	228,082
Net Income	$ 588,877	$ 348,462
Weighted-Average Common Shares Outstanding - Diluted*	843,090	823,005
Earnings Per Share*		
Basic	$ 0.73	$ 0.44
Diluted	$ 0.70	$ 0.42
Dividends Declared Per Common Share*	$ 0.0560	$ 0.0540

* All periods have been restated for the July 1999 two-for-one common stock split.

Source: Company reports.

Exhibit 10
Client Assets for Merrill Lynch, Morgan Stanley Dean Witter, PaineWebber and Charles Schwab: 1990-1999



Compiled from: Merrill Lynch, Morgan Stanley Dean Witter, PaineWebber and Charles Schwab annual reports; Morgan Stanley Dean Witter US Investment Research, October 12, 1999. Morgan Stanley Dean Witter's client assets over the 1990-97 period are from Dean Witter.

Exhibit 11
ON-LINE ACCOUNTS OF FULL SERVICE BROKERAGES

	Merrill Lynch	Morgan Stanley Dean Witter	Paine Webber
Fee-based Account	Unlimited Advantage	Enhanced Choice	InsightOne
Minimum Account Size	$100,000	$50,000	$100,000
Minimum Annual Fee	$1,500	$1,000	$1,500
Fees	20 - 100 bp	30 - 225 bp	75 - 200 bp
Discount Online Account	Merrill Lynch Direct	MSDW Online	
Minimum Account Size	$20,000	$2,000	
Commission Per Trade	$29.95	$29.95 (electronic trade) $39.95 (customer service trade)	

Exhibit 12

Merrill Lynch & Co., Inc.
Preliminary Unaudited Earnings Summary

(in millions, except per share amounts)	For the Year Ended December 31, 1999	December 25, 1998
Net Revenues		
Commissions	$ 6,334	$ 5,799
Principal transactions	4,361	2,651
Investment banking	3,614	3,264
Asset management and portfolio service fees	4,753	4,202
Other	720	623
Subtotal	19,782	16,539
Interest and dividends	15,097	18,035
Interest expense	13,010	17,027
Net interest profit	2,087	1,008
Total Net Revenues	21,869	17,547
Non-Interest Expenses		
Compensation and benefits	11,153	9,199
Communications and technology	2,038	1,749
Occupancy and related depreciation	941	867
Advertising and market development	779	688
Brokerage, clearing, and exchange fees	678	683
Professional fees	567	552
Goodwill amortization	227	226
Provision for costs related to staff reductions	-	430
Other	1,408	1,057
Total Non-Interest Expenses	17,791	15,451
Earnings Before Income Taxes and Dividends on Preferred Securities Issued by Subsidiaries	4,078	2,096
Income tax expense	1,265	713
Dividends on preferred securities issued by subsidiaries	195	124
Net Earnings	$ 2,618	$ 1,259
Preferred stock dividends	$ 38	$ 39
Net Earnings Applicable to Common Stockholders	$ 2,580	$ 1,220
Earnings per Common Share		
Basic	$ 7.00	$ 3.43
Diluted	6.17	3.00
Average Shares		
Basic	368.7	355.6
Diluted	418.1	406.3
Cash Basis (1)		
Net Earnings	$ 2,845	$ 1,485
Earnings per Common Share - Basic	7.61	4.07
Earnings per Common Share - Diluted	6.71	3.56

(1) Cash basis excludes goodwill amortization.

Note: Certain prior period amounts have been restated to conform to the current period presentation.

N/M Not meaningful.

Source: Company reports.

Exhibit 13

Morgan Stanley Dean Witter
Consolidated Statements of Income

fiscal year (dollars in millions, except share and per share data)	1999	1998
Revenues:		
Investment banking	$ 4,523	$ 3,340
Principal transactions:		
Trading	5,983	3,283
Investments	725	89
Commissions	2,921	2,321
Fees:		
Asset management, distribution and administration	3,170	2,889
Merchant and cardmember	1,492	1,647
Servicing	1,194	928
Interest and dividends	13,755	16,436
Other	165	198
Total revenues	33,928	31,131
Interest expense	11,390	13,514
Provision for consumer loan losses	529	1,173
Net revenues	22,009	16,444
Non-interest expenses:		
Compensation and benefits	8,398	6,636
Occupancy and equipment	643	583
Brokerage, clearing and exchange fees	485	552
Information processing and communications	1,325	1,140
Marketing and business development	1,679	1,411
Professional services	836	677
Other	915	745
Merger-related expenses	0	0
Total non-interest expenses	14,281	11,744
Gain on sale of businesses	0	685
Income before income taxes and cumulative effect of accounting change	7,728	5,385
Provision for income taxes	2,937	1,992
Income before cumulative effect of accounting change	4,791	3,393
Cumulative effect of account change	0	(117)
Net income	$ 4,791	$ 3,276
Preferred stock dividend requirements	$ 44	$ 55
Earnings applicable to common shares (1)	$ 4,747	$ 3,221
Earnings per common share (2):		
Basic before cumulative effect of accounting change	$ 4.33	$ 2.90
Cumulative effect of accounting change	0.00	(0.10)
Basic	$ 4.33	$ 2.80
Diluted before cumulative effect of accounting change	$ 4.10	$ 2.76
Cumulative effect of accounting change	0.00	(0.09)
Diluted	$ 4.10	$ 2.67
Average common shares outstanding (2):		
Basic	1,096,789,720	1,151,645,450
Diluted	1,159,500,670	1,212,588,130

(1) Amounts shown are used to calculate basic earnings per common share.

(2) Amounts have been retroactively adjusted to give effect for a two-for-one common stock split, effected in the form of a 100% stock dividend, which became effective on January 26, 2000.

Source: Company reports.

Exhibit 14

Paine Webber Group Inc.
Consolidated Statements of Income
(In thousands except share and per share amounts)
(Unaudited)

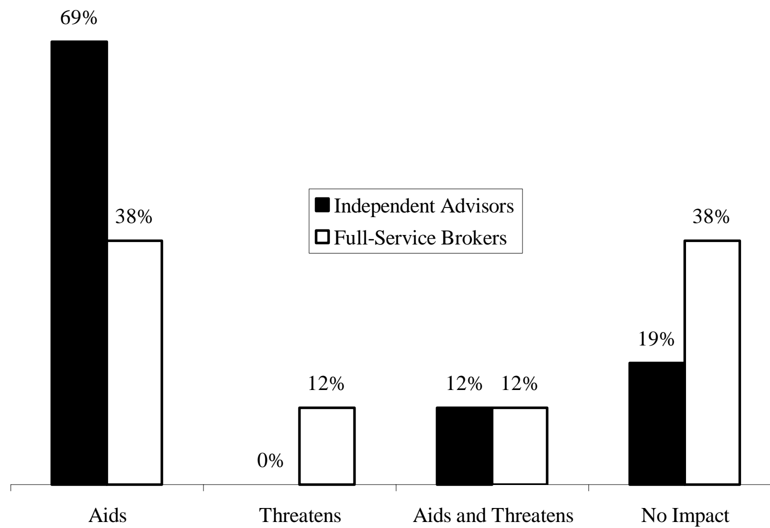
	For the Year Ended December 31, 1999	1998
REVENUES		
Commissions	$ 1,948,959	$ 1,641,283
Principal Transactions	1,110,080	868,807
Asset Management	911,099	713,570
Investment Banking	558,224	530,972
Interest	3,123,440	3,352,708
Other	170,951	142,242
TOTAL REVENUES	7,822,753	7,249,582
Interest Expense	2,532,578	2,844,468
NET REVENUES	5,290,175	4,405,114
NON-INTEREST EXPENSES		
Compensation and Benefits	3,049,568	2,601,364
Office & Equipment	352,712	301,845
Communications	168,071	154,272
Business Development	122,678	103,287
Brokerage, Clearing & Exchange Fees	95,211	97,430
Professional Services	136,758	123,265
Other Expenses	330,375	308,644
TOTAL NON-INTEREST EXPENSES	4,255,373	3,690,107
INCOME BEFORE INCOME TAXES & MINORITY INTEREST	1,034,802	715,007
Provision for Income Taxes	373,959	249,208
INCOME BEFORE MINORITY INTEREST	660,843	465,799
Minority Interest	32,244	32,244
NET INCOME	628,599	433,555
Dividend on Redeemable Preferred Stock	22,802	23,647
Unamortized Discount charged to Equity on Redemption of Preferred Stock	59,883	0
NET INCOME APPLICABLE TO COMMON SHARES	$ 545,914	$409,908
EARNINGS PER SHARE *		
BASIC	$ 3.77	$ 2.91
DILUTED	$ 3.56	$ 2.72
WEIGHTED AVERAGE COMMON SHARES		
BASIC	144,931,000	140,864,000
DILUTED	153,214,000	150,611,000

*** Reflects the effect of the unamortized discount of $59.9 million charged to equity resulting from the redemption of preferred stock.**

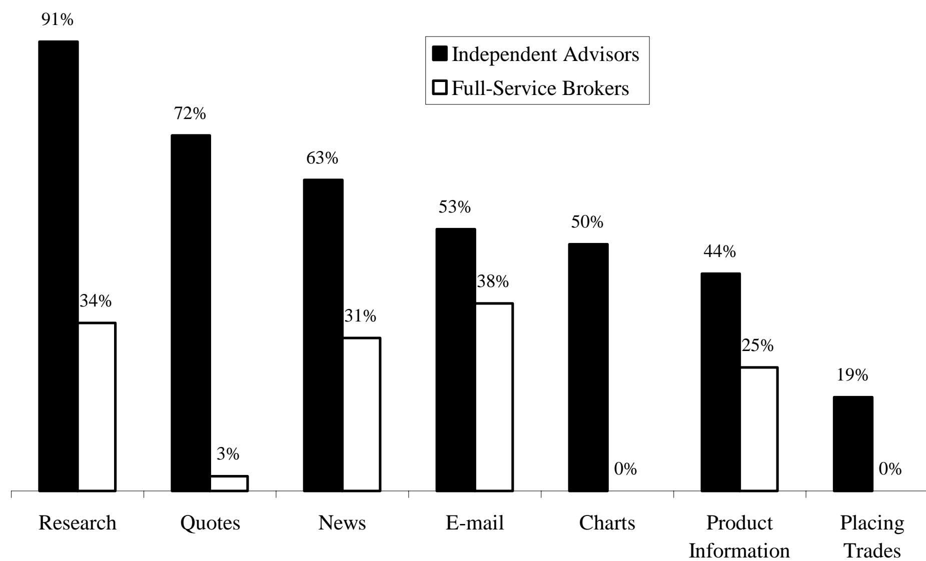
Source: Company reports.

Exhibit 15
Survey of US Financial Advisors, 1999: Independent Advisors (RIAs) vs. Full-Service Brokers

(a) Question: "Does the Internet aid or threaten your business?"



(b) Question: "What do you use the Internet for?"



Source: Forrester Research, Inc., "Arming Captive Advisors," July 1999