

## Chapter 20: Financial Services Online

**"One scenario is that on-line, banks will become like a store in the mall. Another scenario is that banks *may become the mall*, with financial planning software that lists their customers' bank accounts, credit card limits, and home equity balances on-screen, and that provides the ease of navigation and delivery that lets people transact with confidence."**

Jerry L. Jordan. President and CEO, Federal Reserve Bank of Cleveland, in *The Functions and Future of Retail Banking*, Economic Commentary, Federal Reserve Bank of Cleveland, September 15, 1996.

### Prologue

Jerry Jordan, in just a few pages, surveys the history of banking, from the Champagne Fairs of the twelfth century and medieval goldsmiths through to the advent of the Internet and possibilities for the future. His main point is that legal and regulatory divisions among different classes of financial services have to adjust over time, as technological change makes new combinations of services possible. In particular, firms that are legally defined as banks are not the only ones that provide banking services. Furthermore, as US regulations that were introduced during the Great Depression have gradually been removed, banks have been able to provide financial instruments, such as stock mutual funds, that earlier were outside their allowed scope.

Jordan speculates that in the future, even services such as vacation planning and event tickets may be merged with banking-like services in the same firm. (In fact, a local Santa Cruz credit union offers discount tickets for local cinemas and several theme parks in California.) More centrally to financial services, he makes the point that people care about their overall portfolio of financial assets (as well as non-financial assets -- the latter, for most people, mainly being a house they own), and that there is therefore an advantage to being able to integrate or link different types of financial accounts. Since records of ownership financial assets are what matter, and these can be stored and processed as digital information, information technology offers direct and immediate benefits. The ability to search easily and quickly across different assets or financial instruments (such as mutual funds, mortgages, or car loans) within a class for pricing and other characteristics is also an obvious advantage of the Internet. Finally, the costs and time required to process transactions go down with automation and electronic communication.

How have some important financial activities such as banking and stock trading changed with the advent of the Internet and the World Wide Web? More broadly, how have these innovations at least created the potential to revolutionize personal financial management? This chapter tackles the answers to these questions.

## **20.1 Introduction**

This chapter provides an overview of some key aspects of financial services online. In Section 20.2, we examine stock trading online, which has been the headline-grabbing aspect of online finance. While the end of the 1990s bull market has dramatically cooled off the pace of online trading, the fall in trading commissions and the enormous amount of financial information available online are irreversible changes. Full-commission brokerage firms that had resisted competition from discount brokerages for 20 years have also been forced to compete online with reduced trading commissions.

In Section 20.3, we examine a far-less glamorous part of the financial services sector, but one which provides the core financial service for almost every household, that of being a repository of our money for day-to-day needs. Banking had already changed substantially before the Internet arrived, with deregulation, more competition, and the spread of ATMs. Unlike online stock trading, online banking has not been a rocket. It has evolved quite slowly, and is only now reaching a level where it may start to become more generally acceptable. A possible key component in this shift may be the delivery and payment of bills online, which we also discuss in this section. The entry of new specialists in online bill presentment and payment may challenge the banks' hold on some of their corporate customers, though existing bank brands may do well in shifting online with a new role as consolidators of bill presentment and payment for consumers and small businesses.

Finally, in Section 20.4, we examine personal financial management more broadly. Banking and stock trading are just two aspects of a more general goal of households, of allocating resources to current spending and to saving for future spending, or borrowing for current consumption with repayment in the future. Households also have to manage risk, whether in the form of uncertain returns on their savings, unexpected spending needs, or unexpected fluctuations in earned income. The Internet, supported by relaxing of regulations, provides dramatic opportunities for households to manage their personal finances more actively and with better information. In this section, we examine some of the trends in online financial management, including portfolio choices, tax-paying, and searching for the best contracts for insurance, home loans, and other financial decisions. Section 20.5 concludes the chapter.

## **20.2 Stock Trading**

Stock trading was the first online financial activity to take off. At one stage, there were almost 100 online discount brokers, all offering low cost stock trading and free access to financial information that had previously been available in a limited number of printed forms, or filtered through stockbrokers' access to financial information services. We have discussed some of the behind-the-scenes structure of financial markets in Chapters 7 and 12. Here we examine the nature of the online stock trading industry, and how existing brokerage firms have responded.

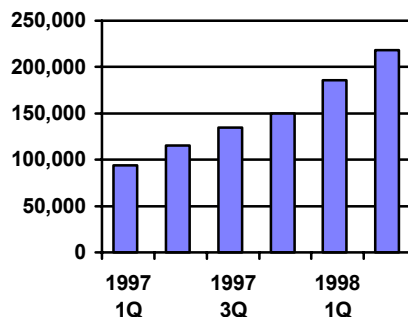
Online stock trading was approved by the Securities and Exchange Commission in 1996. One of the first cases that led to this approval was a small alternative energy

company that wanted to let its investors trade stock through an electronic bulletin board. Once the go-ahead came for such electronic trading by the public, new firms came in rapidly. The only major traditional broker that moved rapidly on to the Web was discounteer Charles Schwab, which still is the leader in online market share. A hot stock market contributed to the rapid growth of online stock trading. By late 1997, average commissions online were down to almost \$15 per trade. At that time, the market share leaders, following Schwab, were E\*Trade, Fidelity and Datek.

While dozens of firms entered the online trading arena, the top twelve accounted recently for close to 90% of all trades. In alphabetical order, these were: Ameritrade, Charles Schwab, Datek Online, Discover Brokerage Direct, DLJ Direct, E\*Trade, Fidelity, National Discount Brokers, Quick & Reilly, SureTrade, Waterhouse and Web Street Securities. Most trades through these firms involved commissions of between \$8 and \$20, with only Schwab charging appreciably more, at \$30. Not surprisingly, Schwab attracted investors with larger asset balances on average. For example, in October 1998, Schwab had 1.8 million accounts (of all types) with \$132 billion in assets, while E\*Trade had half a million accounts with \$11.5 billion in assets. In other words, the average Schwab customer had over three times as much deposited with the firm as the average E\*Trade customer.

In the bull market of the late 1990s, the discount brokers rapidly attracted a new clientele, of so-called day traders, people who attempted to make a living through rapid-fire electronic trading of stocks. Trading volume soared (see Figure 20.1) and more discount brokers piled in as the costs to entry into the industry plummeted -- all one needed was a website and links to the existing exchanges, rather than a costly infrastructure of retail brokerage branches. Often, the service provided by new entrants was minimal, and website crashes happened too frequently for those who were trying to buy and resell stocks in a matter of minutes. The technology of the web also made it easy for these traders to open and monitor multiple online brokerage accounts, and minimum balances were often small to attract new customers.

**Table 20.1: Estimated Average Number of Online Stock Trades Per Day**



Source: Credit Suisse First Boston, reported in *Wall Street Journal*, October 22, 1998, p. C1

Several developments occurred as the online brokerage industry matured. First, companies that were able to invest the most in reliable technology and service were able

to move or stay ahead of those simply offering low commissions. In any case, individual traders began to realize that commissions might be less important than execution of an order at the best possible price, which not all brokers were equipped to enable. Furthermore, as price competition receded in importance, many online brokers began to compete in terms of the information that they provided: better research and analysis, more detailed and up-to-the-minute quotes, and so on. They also began to compete in terms of the range of services offered: trading in mutual funds and bonds, trading by telephone, check writing and banking services, access to IPOs, account insurance, etc.

In a nutshell, some online brokers began to offer a range of services that was, superficially at least, quite similar to full service brokers such as Merrill Lynch and Salomon Smith Barney, but with trading commissions that were a fraction of those full service firms. Well before the Internet had exploded on the scene, spurred by removals of regulatory restrictions on cutting commissions, Charles Schwab had begun this process as the pioneering discount broker. The Web reduced barriers to entry, reduced the cost of doing business, and provided access to many more investors. It allowed trade requests and executions to be automated, and the costs of maintaining and servicing an individual account to be dramatically reduced. Financial services are a quintessential candidate for digitization, and this process was well advanced in all parts of the value chain except for individual stock trading before the Internet and Web came on the scene. The Web completed this process of digitization by allowing the individual trader to be included in the loop.

Full service (and full commission) brokerages such as Morgan Stanley Dean Witter, Salomon Smith Barney and industry leader Merrill Lynch had been able to resist Schwab's discounting efforts, and initially they did no more in response to the Web than offer basic financial information online to all users, with additional access to information to their customers. While Morgan Stanley Dean Witter opened an independent online broking subsidiary, the other full-service brokerages firms resisted offering online trading. They did not want to alienate their own stock brokers, who benefited from high commissions.

However, as competition drove down online commissions and increased the quantity and quality of financial information that was available on the Web, as well as the reliability of online trading, the full-service brokerages also began online trading operations, with commission rates comparable to Schwab, whom they had never matched in price in its pre-Internet years as a discounter. Powerful brands, in-house production of financial research, and large resources have allowed the full-service brokers to rapidly establish a strong presence in online stock trading and other financial services. For example, Merrill Lynch has established a substantial online business. As other regulatory barriers -- to competition among different branches of financial services -- also were removed or reduced, firms that were not in the securities industry also entered the market, by setting up online brokerages, or by acquiring start-ups.

As the bull market of the 90s came to an end, online trading decreased precipitously, reducing the profits of brokerage firms. To some extent, this effect would

have occurred even in the absence of online trading, only its magnitude was greater. The net outcome of the crash of technology stocks, in particular, will be a consolidation of online brokerage firms. At the same time, the effects of the Internet and the Web in reducing transaction costs and lowering barriers to entry are permanent. High commissions simply for trading are a thing of the past. Commissions may still be high where they are bundled with (hopefully) high quality advice, but online trading has allowed the routine administration aspects of trading to be firmly unbundled from the advice aspects. While the growth in assets managed online will slow, there is still room for increases (Table 20.1). Note that at the time of the data in the table, about 20% of trades were conducted online, much greater than the proportion of assets -- lower commissions led to more frequent trading, as one would expect.

**Table 20.1: Investible Assets Market Share (Fall 1998)**

<b>Industry Segment</b>	<b>Share of Assets Managed</b>
Full-commission securities firms	33%
Banks	20%
Discount brokers (including online)	10%
Other	37%

### **20.3 Banking and Bill Payment**

Banking is less glamorous than stock trading, but a more universal household activity. While individual ownership of stocks involves a bare majority of the US population (and less in other countries), almost every household in developed countries has a bank account. This is easy to understand. While stock ownership requires a sufficient level of asset holding beyond what is necessary for managing day-to-day needs (and beyond what might be in the form of durable goods such as a house and a car), bank accounts are precisely for those day-to-day needs.

We begin with some background on banking. Money deposited in a bank checking account is just as much money as are notes and coins. Such deposits can be converted into currency “on demand”, hence the term “demand deposits”. Checks and debit cards are components of payment systems designed to transfer money between households and/or businesses without converting the deposit into currency, as we discussed in Chapter 12. Keeping money in demand deposits allows households and businesses to avoid the risks of loss or theft associated with having the money in the form of currency at home, in the office, or one one’s person. In addition, carrying large quantities of currency may be inconvenient.

Banks may charge directly for the security and convenience that they provide, but they make profits chiefly by lending out deposits. This means that at one time, the bank

does not hold enough currency to convert its total of demand deposits into currency. If all bank depositors simultaneously decide to withdraw their deposits as currency (what is often called a “bank run”), the bank cannot immediately meet its obligations. This happened quite often in the US in the 1930s, and periodically in earlier decades as well. In such circumstances, the bank would be forced to start calling in its loans prematurely or, if that failed, shut its doors. In either case, the effect could be to suddenly and sharply reduce the amount of credit in the economy, leading to negative effects on real economic activity. Banking was inherently subject to the possibility of instability, particularly where a run on one bank spread quickly to other banks.

Governments have dealt with the instability problems by providing deposit insurance. This has the effect of removing or reducing the risk that an individual depositor will lose his or her money. It therefore reduces the incentive for a run on a bank. In the US, federal deposit insurance was introduced in the 1930s, during the Great Depression, which was partly caused or exacerbated by bank runs and bank failures. A slightly different set of issues led to another major US regulatory change in the same decade. Banking, insurance and securities trading were all required to be separate in terms of ownership and day-to-day operations. This was designed partly to prevent financial manipulation that was perceived to be common in the 1920s, before the stock market crash of 1929. Of course many regulatory structures were created directly for the securities industry as well.

As we have noted, banking essentially provides security and convenience for day-to-day transactions of households and businesses (see the Illustration Box for a more comprehensive list). In addition to being depositors, both households and businesses may be borrowers from the bank. Typically banks have lent money for household purchases where collateral is available (houses and cars), and to small businesses, again with collateral. Banks’ advantages in this market have traditionally been in being able to size up smaller borrowers more efficiently than other lenders, and in managing portfolios of such loans more efficiently.

How does the Internet add value to banking? In the case of stock trading, the situation was one of trading commissions that were artificially high, and where non-Internet methods of trading involved higher costs of paperwork and manual processes. Automation and competition, plus the convenience and speed of Internet communications, made for a winning combination. For banking, speed does not matter in the same way as it does for stock trading. While banks have not been very competitive in the past, deregulation that began in the 1980s and continued in the 1990s did have some impact. Hence the cost of traditional banking has not been high enough to cause customers used to traditional banking to switch.

**Illustration Box**  
**Functions of Banks as Financial Intermediaries**

As financial intermediaries, banks provide six functions, according to Jerry

Jordan, President of the Federal Reserve Bank of Cleveland:

- 1) Conducting exchange (clearing and settling claims);
- 2) Funding large-scale enterprises (pooling resources);
- 3) Transferring purchasing power across time and distance;
- 4) Providing risk management (hedging, diversification and insurance);
- 5) Monitoring borrower performance;
- 6) Providing information about the relative supply and demand for credit.

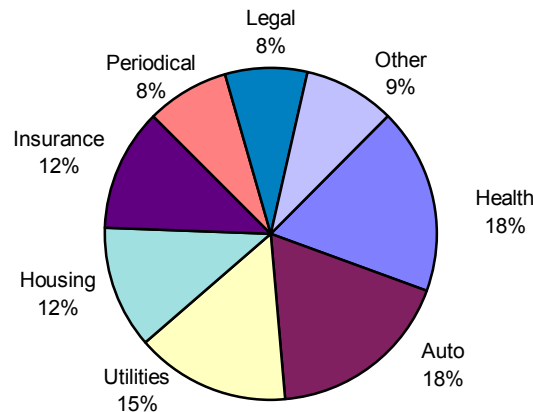
Even more succinctly, Jordan describes the function of banking intermediation as “reducing information and transaction costs”, a perspective we developed in Chapters 5, 7 and 8.

Source: *The Functions and Future of Retail Banking*, Economic Commentary, Federal Reserve Bank of Cleveland, September 15, 1996.

Perhaps the most important reason for online banking to be slow to take off has been the quite rapid adoption of another innovation. ATM machines changed banking in the 1980s. By automating all basic banking transactions (cash withdrawals, deposits, account inquiries) they reduced costs for banks, who steered customers toward their use by making it less attractive to step inside a bank and interact with a human teller. Consumers were soon hooked by the convenience aspects of ATMs: their ubiquity and 24-hour availability made them more attractive for basic transactions. In fact, banks are now able to charge for the use of ATMs, capturing some of that value created. A supplementary innovation that works for all non-paper interactions (balance inquiries in particular, but many other pure informational exchanges) is automated telephone banking (with human back-up). Finally, an efficient US infrastructure for handling checks, and now debit cards as well, meant that many if not most physical transactions did not require trips to the bank. In sum, online banking does not obviously create additional value for many bank customers.

One area, however, where the above conclusion may not be true is in bill presentment and payment. This may be the “killer app” for online banking, and we therefore examine this aspect of finances in more detail. Bill payment is typically viewed as an unpleasant chore, certainly not a glamorous activity. It is precisely its tedium that offers scope for innovation online. Every household has a slew of monthly bills, for utilities, entertainment, credit cards, rent or mortgage, and so on (see Figure 20.2). For small businesses, bill paying is even more of a chore. Bills for different things are typically due at different times of the month, and payment is traditionally by the “check is in the mail” method. Late payments may result in heavy fees. Similarly, if the check is written on an account with insufficient funds, the penalty can be stiff. From a bill payer’s point of view, avoiding these costs, and reducing the cost of managing the process of bill paying, may be worth the move to online banking.

**Figure 20.2: Types of Bills**



Source: *The Nilson Report*, reproduced in *The Emerging Electronic Bill Presentment Industry*, by Gary Craft and Wayne Johnson, Roberston, Stephens Report, August 1997.

Every online bank offers therefore online bill paying, in addition to regular banking services. In some respects, this is a natural extension of traditional services, where bills can be debited directly from a bank account, by prior agreement. However, it is different in that it allows the bill payer to control the timing of the payment. Many pure online banks offer free electronic bill payment, while most brick-and-mortar banks with an online presence charge either a fixed monthly fee, or per bill, or a combination of both. The cost per bill is mostly in the range of \$0.20 to \$0.50, or about the cost of a stamp and envelope. Electronic bill payment here substitutes for using the postal service.

Bill payment requires a prior step, which is referred to as “bill presentment”. Just as we are used to sending our payments by mail, we also typically receive our bills through the same channel. This bill presentment is often handled by specialized outsourcers. In fact, the payment may also go through the billing company. Clearly, the bank enters this chain only indirectly. However, banks are major beneficiaries of the traditional postal method of bill presentment and payment. This benefit comes from what is called “float”.

The traditional billing cycle float represents time spent in preparing bills, mailing them, having them paid by those billed, the mailing of the payment, and the clearing of the check. The key part of this for banks is the time between a check is written and the funds are debited from the payer’s account. to the extent that the payer treats the funds as having been spent, they are available neither to the payee nor the payer for that short period. Shortening this float will lead to a transfer of value (the interest that can be earned on the float) from banks to corporations or the billers acting as their outsourcers or agents. In the same way, shortening other parts of the billing cycle would lead to a transfer from payers to payees.

While the shortening of billing cycle and reduction of the float represent merely a redistribution of value, the amount at stake may be as large as several dollars per transaction. To the extent that households are not sensitive to this amount, the battle for



value capture is between banks and the ultimate payees. At the same time, there are potentially real efficiency gains from reducing the amount of paper, physical delivery of bills and payments, and the other associated manual handling processes. These cost savings may be in the range of \$0.75 to \$1 per transaction. With over 20 billion bills presented and paid annually in the US, the market potential, even if a small percentage of these bills are presented and paid electronically, could be quite large.

Electronic bill presentment and payment (EBPP) may be relatively smooth sailing for small businesses if it provides them some cost savings and improvements in cash flow management, but note that the latter gain means that benefits from float reduction must not come at the expense of the bill payer. Interestingly, EBPP comes up against a substantial barrier of switching costs for households. Often household routines are based around paper bills that can be conveniently viewed by different family members (for example, showing the teenager in the household how much his or her phone calls cost), and electronic bill presentment may lack aspects of the flexibility that paper provides. Of course electronic bills can be printed out, and online payment can work with paper bills. Ultimately, however, those who seek to collect the money may have to provide positive or negative incentives to switch, just as charging for coming into a bank to perform a teller-aided transaction pushes bank customers to use ATMs whenever possible.

To some extent, EBPP provides several different possibilities for reconfiguring or otherwise modifying the billing cycle value chain. As we have noted, the banks are only one component of the chain. The ultimate payees (which may include banks where the bills are financial bills such as mortgages) and the specialized billers to whom they may outsource are, in some sense, more important in the traditional value chain, though the banks have benefited the most from the billing payment float. New players in the value chain have been startups seeking to provide electronic presentment and/or payment (especially the former), and of course firms providing the software that makes EBPP possible. To the extent that banks have a day-to-day relationship with their depositors, they may actually become more prominent in the billing value chain, as they can provide consolidated bill presentment integrated with payment.

We may see where banks and other firms fit in by examining four different models for EBPP.<sup>1</sup> We list these alternative approaches, with descriptions and comments.

1. **Billers direct.** This requires bill payers to log on to the payee's web site (which may still be outsourced and operated by a specialized billing company). There are apparently no benefits to the bill payer, and electronic payment would require some link to an account that can be operated online.
2. **E-mail bill delivery.** This saves the payer the work of pulling in the bill if it can be sent securely as an attachment (though the e-mail may only have a link to a web site,

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<sup>1</sup> This list is taken from *The Story with Bill Presentment*, by Michael Gazala and David Weisman, Forrester Research Brief, December 28, 1998.

hence mimicking the first approach), and allows the payer to collect bills in an electronic mailbox or folder, but otherwise offers no advantages to the payer.

3. **Thick consolidator.** In this model, an EBPP processor acts as an intermediary between multiple billers and payers, aggregating detailed billing data and presenting it (or summary data) to the payers. Payers can then go to a single web site for payment. From a consumer's perspective, this approach offers the greatest convenience. On the other hand, individual companies lose the ability to bundle their own marketing and promotional materials with their bills.
4. **Thin consolidator.** This approach is similar to the previous one, but with aggregated presentation of summary billing data only. Payers would still have to go to individual sites for detailed billing information. This offers some benefits to both sides of the transaction, and may therefore be the model that finds the widest adoption.

#### **Illustration Box CheckFree Corporation**

According to its web site, "CheckFree designs, develops and markets services that enable more than 4.4 million consumers to receive and pay bills over the Internet or electronically through a variety of bill aggregation points, including banks, brokerage firms, portals and interactive content sites on the Internet." It goes on to list the following facts:

- Nearly 275 sites are now live with full electronic billing and payment services provided by CheckFree.
- CheckFree provides total roster of bills on the Internet that will soon be over 220.
- CheckFree distributes 2.5 million bills per year over the Internet.
- CheckFree offers the nation's first end-to-end electronic billing and payment solution as an outsourced service.

With its leadership position in EBPP, and over 50% market share, CheckFree has begun to generate positive cash flow, and is expected to show profits in the next year, but its struggle to get there illustrates some of the difficulties of switching from paper to electronic transactions, even where total annual cost savings are potentially in the billions of dollars.

Source: Company web site ([www.checkfree.com](http://www.checkfree.com)) and financial reports

To summarize, all four different approaches to EBPP all offer some potential convenience and cost saving through electronic delivery, whereas the latter two offer some convenience through consolidated presentation. However, none of them may be compelling enough by themselves to gain widespread adoption. If that is the case, the only way that EBPP will succeed is as part of a more general online offering of integrated financial services. Existing banks may have a head start online through their relationships with retail customers (households and small businesses). We discuss general financial management services in the next section.

On the other hand, their corporate services may be harder to protect. For example, some banks traditionally provide “lockbox” services, where they collect and process payment on behalf of billers, such as utility firms. EBPP upstarts such as CheckFree (see Illustration Box), Princeton Telecom and MSFDC have the potential to replace banks in these profitable business services. Banks that outsource back office software and electronic operations to such firms may find themselves losing their lockbox business to these new outsourced service providers.

## **20.4 Personal Financial Management**

Stock trading and banking are two prominent financial activities undertaken by households, but one can usefully examine them in the broader context of overall personal financial management. If we begin with the basic goal of individuals, of maximizing utility, then the implied objective of financial management is to support this primary goal, by enabling an individual to achieve his or her most preferred pattern of consumption over a lifetime (possibly including consumption of children and bequests to them). In Chapters 4 and 6, we briefly examined how the utility maximization perspective can be used to analyze spending and saving (or borrowing) decisions, and how savings can be allocated across different assets according to preferences over return and risk. In practice, the spending-saving/borrowing and allocation-of-saving decisions are made simultaneously.

Further aspects of risk, beyond the riskiness of different assets, are those of unexpected spending requirements, such as medical expenses and durable good repairs or replacements, and the risk of fluctuations in earned income (as opposed to income from assets). Insurance partly addresses such issues, and forms an important part of personal financial management. In some cases, insurance is compulsory and government provided, as is the case with unemployment insurance. In other cases, such as automobile insurance, it is compulsory but privately provided. Medical insurance is voluntary, but anyone who can afford it on reasonable terms will typically purchase it, and it is often bundled with employment. There is government-provided medical insurance, as well as private plans. An important aspect of insurance is self-insurance, which is used where formal insurance is too expensive or unobtainable (in case damages are difficult to verify, or easy fake or to cause without detection). Bank demand deposits, or similar liquid assets, play this self-insurance role, as well as being used for predictable spending needs.

To summarize, the essence of financial management from a conceptual perspective is smoothing consumption over time, managing risk, and doing it all at a reasonable cost. In Chapter 6 we discussed the time and other costs of shopping around, and these apply to financial services even more than to products like CDs and books. To some extent, services are an essential part of financial management, but they can be minimal. We obtain service at a department store, but we choose products such as clothes and shoes fairly independently. On the other hand, the costs and complexities of financial management have often meant that households have delegated the choice of

financial products also to service providers. Kalakota and Frei have categorized financial products and services as basic, intermediate and advanced, as illustrated in Table 20.2.

**Table 20.2: Types of Financial Products and Services**

Basic	Intermediate	Advanced
<ul style="list-style-type: none"> <li>• Checking and saving account statement reporting</li> <li>• Account management</li> <li>• Listing most recent transactions</li> <li>• Household budgeting</li> <li>• Updating stock portfolio values</li> </ul>	<ul style="list-style-type: none"> <li>• Account reconciliation across products</li> <li>• Paying bills, status of payments, stop-payment requests</li> <li>• Consumer and mortgage loan payments</li> <li>• Obtaining loan applications, historical performance data, prospectuses, and stock and mutual fund information</li> </ul>	<ul style="list-style-type: none"> <li>• Stock and mutual fund trading services</li> <li>• Foreign exchange currency trading and cash management</li> <li>• Tax return preparation and filing</li> </ul>

Source: Ravi Kalakota and Frances Frei, "Frontiers of On-line Financial Services", in Mary Cronin, *Banking and Finance on the Internet*, 1997.

It is interesting to note that the classification in Table 20.2 has not necessarily determined the order of household adoption of online financial management. Stock trading is characterized as "advanced", but it has been the leading component of the movement of financial services online. The bull market of the 1990s, as well as the importance of speed and information in stock trading (making the Internet more valuable) seem to have driven this outcome. Now that stock prices are no longer rising, the volume of online stock trading has fallen dramatically, and financial services firms will have to focus on building more balanced online offerings.

Some of the broadening of scope in offerings was happening, both online and off. Depression-era regulations that compartmentalized banking, insurance, securities trading and other financial services are continuing to be removed or liberalized. At the same time, lower confidence in Social Security and company-managed pension plans, as well as the aging of the baby boomers in the US have increased the range of households' concerns with respect to their personal financial management. Therefore both the demand for and the supply of more integrated financial services have increased.

Given these trends, what is the basic value proposition of online personal financial management? We may provide an answer based on our previous discussion in Chapters 9 through 11. There are three components to any offering. First, there is the product itself. Financial products are digital, and are (relatively) easily digitized. Second, there is information about the products and their characteristics (returns and risk, in particular). Again, this information is easily digitized. Third, there are services that

provide time and convenience, which we have put in two categories: administration and advice. Routine administration is easier to digitize, representing a process of automation. Advice is not as easily transformed, but digital tools (software programs) that perform analyses of raw information also replace manual, heuristic approaches with automation. Thus the answer to our question is that online financial management provides easier and wider access to financial products, information about those products and their characteristics, and to digital tools that make financial decision-making easier.

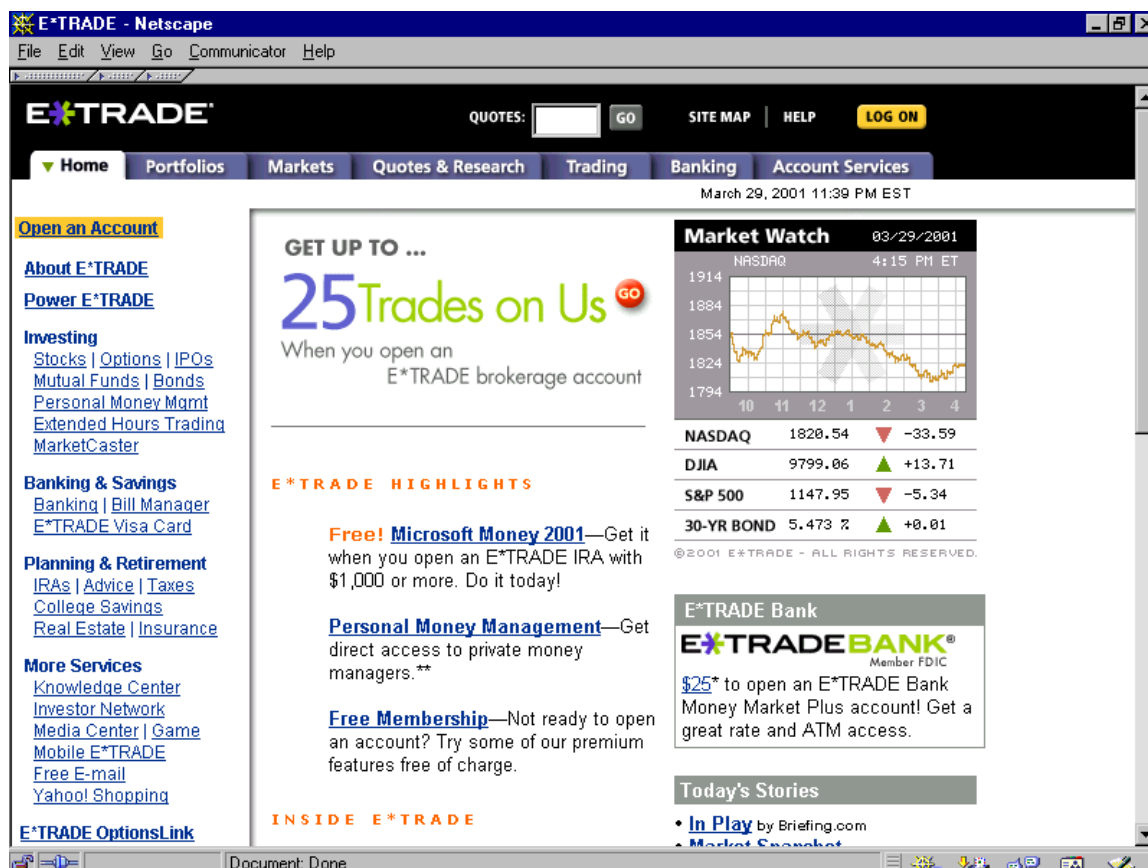
A further consequence of digitization that we have also explored earlier is that it makes possible the creation of new products and services, by creating new bundles (whether new packages of product offerings or new products, such as tradable mutual fund shares), or by unbundling products from ancillary services, or by transforming manual services into digital products, or by creating new kinds of services (e.g., financial message boards). This ability to differentiate products partially acts as a counter to the fundamental forces of digitization, which create value but also make it harder to capture value. We have discussed some of these issues in Chapters 13 through 17.

In the remainder of this section, we briefly consider various examples of what financial services firms are trying to achieve in their online efforts. Several themes run simultaneously through these examples:

- Different functional areas, such as insurance, mortgage lending, managing retirement assets, and tax planning and payment, in addition to stock trading and banking
- Types of product and service bundling, from the perspective of what the consumer receives, and the value it provides
- Changes in industry organization and methods of value capture in the delivery of financial services to households

**E\*Trade** The E\*Trade Group is probably best known for its online trading arm, E\*Trade Securities, but it has spread its reach into banking (E\*Trade Bank), personal money management (E\*Trade Advisory Services), bill management, all kinds of financial investments, tax planning, mortgage loans, insurance and more. Mortgage loans are offered through LoansDirect, an E\*Trade subsidiary, acting as a mortgage broker or intermediary. Insurance is provided by “partners” such as AIG and John Hancock. The E\*Trade website provides information galore on basics of every aspect of financial management and services. Of course there is free e-mail, and a link to Yahoo! Shopping (see Figure 20.3). Call it a mall, a financial supermarket, or a financial portal, the goal is to provide a complete array of financial services to a broad range of US households. E\*Trade’s strategic goal takes it well beyond online stock trading.

**Figure 20.3: E\*Trade: Portal, Supermarket or Mall?**

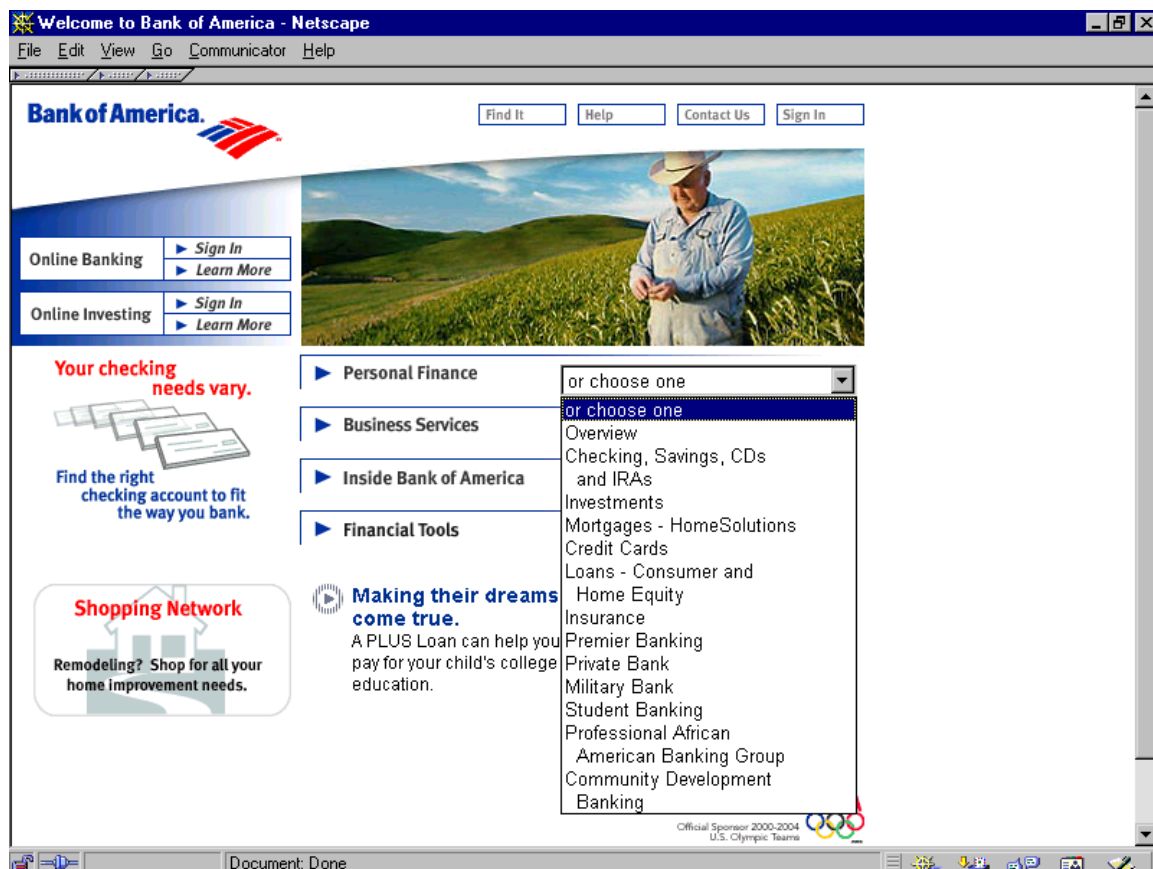


**Bank of America** Bank of America is one of the largest US banks, with a large presence in its original home base of California. Its retail branches and ATMs are all over (or seem to be). When one explores their website, however, immediately below online banking there is online investing on offer (see Figure 20.4), by Banc of America Investing Services, a subsidiary.<sup>2</sup> Clicking on the menus proceeds to bring up lists of products and services that are not that different from those of E\*Trade. Digitization, deregulation, and the underlying need for coordination of financial management of all kinds is driving very different sorts of financial services firms to compete through diversified offerings to customers.

Despite aspirations of being one-stop shops, financial services companies still reflect their histories: E\*Trade is stronger in stock trading, Bank of America (B of A) in retail banking. E\*Trade also does not have B of A's brick-and-mortar infrastructure of retail branches, which has its costs but also benefits. Finally, B of A and many other banks focus on households that were already using some PC-based financial management software, such as Intuit's Quicken® (see Illustration Box below) or Microsoft's Money®.

**Figure 20.4: From Bank to Banc**

<sup>2</sup> The spelling is deliberate: the subsidiary is not a bank, so it cannot use the word "bank" -- but "banc" is permitted!



**E-Loan** E-Loan is an Internet “pure play”, as well as a more specialized firm than E\*Trade. It acts as an online intermediary for various kinds of consumer loans: home and home equity, automobile and credit card. It also acts as a channel for the less-well known LiveCapital, which acts as a small business financing intermediary. While LiveCapital is a private company, E-Loan went public in 1999. E-Loan’s services as an online intermediary are based on the fundamental Internet virtues of information aggregation, interactivity, speed and availability. Their web site includes the following offerings or benefits<sup>3</sup>:

- Borrowers can compare, apply for and obtain loans from the nation's leading lenders
- One-stop source of tools, services and unbiased information to help customers manage their debt
- E-Track exclusive service offers 24-hour access to loan status information
- Rate Watch and Mortgage Monitor services automatically notify customers when new products meeting their needs become available
- My E-LOAN allows loan shoppers to personalize information

<sup>3</sup> These are quoted from the web site, www.eloan.com.

### Illustration Box Intuit and Quicken

Intuit Corporation is much less well known than Quicken, its flagship product, or even TurboTax, its tax preparation software. Well before the web became so significant, Quicken offered packaged, stand-alone desktop software that allowed households to manage their money more conveniently and efficiently. Here is how the company describes some of what its latest version of Quicken does:

“Quicken 2001 Deluxe helps you better manage the 7 key areas of your finances: Banking, Investing, Taxes, Planning, Loans, Insurance, and Spending & Saving. It's packed with powerful features and enhancements that let you see the complete picture of your finances, including

- **Easier and smarter reconcile:** helps you identify which month's statement is affected by a discrepancy so you can correct the error promptly and easily.
- **Proactive missed bill reminders:** finds past repeated bills you've entered, like a monthly mortgage payment, and can alert you when these bills are coming up or overdue
- **More powerful portfolio analysis:** offers you over 30 new performance indicators for your investments, and lets you customize your report formats.”

Not only have many other online financial services providers been forced to accommodate the large installed base of Quicken users, by enabling downloads of account information from their online sites to desktop Quicken programs, but Intuit itself has offered web-based services that extend the capabilities of its software. In fact, Quicken.com is just as much a financial portal or supermarket as E\*Trade or Bank of America, but coming from yet another lineage, that of software vendor. Despite stiff recent competition from products such as Microsoft Money, Intuit made about \$300 million profit on sales of over a billion dollars in 1999-2000.

Source: Company web site ([www.intuit.com](http://www.intuit.com)) and financial reports

Despite these advantages, and the lack of problems of fulfillment that arise with physical products, E-Loan has had difficulty building its brand in an economical manner. Large marketing expenses and generous stock incentives have been major contributors to its financial difficulties, which resulted in large losses (see Table 20.3) and a stock price that plummeted to less than \$2. A financial investment by Charles Schwab, together with a long-term strategic alliance, where E-Loan acts as Schwab's loan services arm, will probably save the company. With only a tiny fraction of the \$2 trillion lending market being transacted online, there is potential for growth, but incumbents with established brand names and deep pockets may ultimately dominate.

**Table 20.3: E-Loan Income Data, Years Ending December 31 (\$ M)**

	1996	1997	1998	1999
--	------	------	------	------



Revenues	893	1,043	6,832	22,097
Operating expenses:				
Operations	903	1,319	8,257	22,779
Sales and marketing	-	470	5,704	30,286
Technology	--	102	1,346	3,595
General and administrative	97	524	1,619	6,859
Amortization of unearned stock-based compensation	--	--	1,251	23,116
Amortization of goodwill	--	--	--	11,589
Total operating expenses	1,000	2,415	18,177	98,224
Loss from operations	(107)	(1,372)	(11,345)	(76,127)

Source: company 10K report

**Quotesmith** Quotesmith is another example of a specialized online intermediary, providing insurance quotes for a mind-boggling array of types of insurance: term life; automobile; individual, family, one employee and small group medical; dental; disability; life; annuities; small business coverages; medicare supplement; and boat, watercraft, RV, and motorcycle. The company provided over 4,000,000 insurance quotes in the year 2000, which generated about 37,500 policies and \$15 million dollars in revenue, but also losses of close to \$20 million.

Quotesmith actually began in 1984 as a provider of an electronic quotation and policy information service to insurance agents and brokers, shifting focus toward consumers in 1996, when the Internet took off. It offers consumers the ability to:

- efficiently search for, analyze and compare insurance products;
- quickly request and obtain insurance quotes; and
- select and purchase insurance from the insurance company of their choice.

In this way, it is similar to E-Loan and many non-financial services firms that act as “infomediaries”, and suffers the same problem of generating enough revenue to break even, despite the potential cost savings of transacting online. Quotesmith.com owns and operates an insurance information database that tracks the rates and coverages from over 300 different insurance companies, but it cannot directly collect revenue from consumers. Its value lies in reducing insurance buyers’ search costs, but it cannot capture this value from them, but has to do so from sellers.

Another problem faced by firms such as Quotesmith and E-Loan is the ease of entry. A search on google.com for the words “insurance quotes” yielded 144,000 results,

including numerous specialized and general insurance quote sites, some being offered by portals such as Yahoo! and Excite. Ultimately, some consolidation will take place. InsWeb, another insurance quote provider, acquired the assets of QuickenInsurance in December 2000, and will act as Quicken.com's aggregator of online consumer insurance services. Placement in such financial portals may be the crucial ingredient for success. At the same time, there is another layer of intermediaries that also influences consumers. Gomez.com, for example, ranks insurance and mortgage sites by various usability, service and performance criteria. Quotesmith finished eighth in these rankings for April 2001, far behind leader InsWeb. E-Loan did somewhat better in Gomez's mortgage loan rankings for the same period, finishing fifth, with E\*Trade subsidiary LoansDirect ranking second.

While the Internet allows for unbundling of products and services, personal financial management is more efficient if integrated. Thus one would expect financial portals such as E\*Trade and Quicken.com to become the main online financial services providers, both through their own offerings (stock trading for E\*Trade, financial management software for Intuit) and as intermediaries for offerings by other financial services firms in specialized areas such as insurance and lending. Revenue sources will include commissions on transactions, as well as sales or renting of software tools for financial management.

As consumer financial transactions become more automated and routinized, the role of human intermediaries such as brokers and agents must change. At the high end, they will still function much as before, acting as delegated financial managers for the wealthy. However, human brokers will be squeezed at the low end, and must use automation of various kinds themselves to serve greater numbers of customers. The broker may use email alerts rather than the telephone, enable clients to fill out forms on the web, and so on. Ultimately, the value of human intermediaries will be more clearly for advice and expertise, rather than routine tasks.

Human intermediaries should also be able to use analytical tools to reduce the degree of specialization in providing advice. Whereas in the past stock brokers and insurance agents operated separately (because of regulatory constraints as well as economies of specialization), a single personal financial services provider equipped with the right software should be able to provide advice on both stock portfolios and life insurance for her clients, as they both impact the clients' lifetime financial goals and planning. The financial services provider acts as a delegated asset manager, perhaps receiving a percentage of the assets under management, rather than a broker working on commissions for each trade, or as an agent of the seller. In this case the professional decides what financial products to buy, as well as handling the transactions.

To summarize this potential scenario, information technology in general permits individuals to gather and analyze information more efficiently. However, it allows specialists acting on behalf of others to do so, as well as households acting on their own behalf. The Internet leads to a narrowing of the information gap between financial services professionals and households, and therefore one is likely to see more "self-

service” financial management. To the extent that financial services professionals can increase their efficiency of communications and information processing, including through use of the Internet, they can limit this trend but not prevent it.

## **20.5 Conclusion**

Since the Internet makes price comparisons much easier, it puts downward pressure on prices for financial products and services just as much as for physical products. Since financial products are purely digital, there are no logistical barriers to online operations. Since rich information, including analytical tools, can be made available online at relatively low cost, many routine and even judgment-based tasks can become self-service, reducing the need for human experts. Where does all this lead?

If financial services firms are forced to compete by offering more and more information and analytical tools to process that information for free online, how can they make money? What will prevent all economic profits from being competed away? One significant possibility lies in switching costs. To the extent that customers have to bear significant switching costs in moving assets because they have to learn the quality of new providers, bear some transaction costs of the transfer, lose the accumulated knowledge that the old provider has about them, and adjust to different ways that information may be presented to them or analyzed after the switch, financial services firms will be able to continue making positive economic profits. The Internet may reduce switching costs, but it does not eliminate them.

Furthermore, sellers can try to increase switching costs by differentiating or even customizing their product and service offerings. The vast range of financial products and their relative complexity makes this very doable. The digital nature of financial products also makes customization and bundling easier. These counteracting forces will be the basis of the strategies of financial services providers in the Internet era.

## **Summary**

- Online stock trading has been the most prominent and fastest growing online financial activity, reflecting lower commissions through new brokerage entrants and resulting greater competition, but also the rising stock market of the 1990s.
- Online banking has been slower to take off, because speed and access are less important, and because it offers less of an advantage over the ATM network (versus online brokerages compared to full service securities firms).
- Online bill payment represents a significant opportunity for bundling with online banking services, though new entrants in bill presentment and payment may crowd out banks.

- Personal financial management can be more efficient online because different aspects such as long-run asset management, insurance, borrowing, and day-to-day transactions can potentially be better integrated.
- Firms such as E\*Trade and Intuit, coming from different starting points, offer a new model of online financial supermarkets, which may be the approach that is successful in the long-run.
- Narrower specialists have a more difficult time online, because of easier entry and fiercer competition: they may survive only in high-value niches.
- In general, financial service providers will have to counteract the impact of freely available information and analytical tools online through differentiation and customization of offerings, as well as other strategies to raise switching costs.

### **Questions**

1. Check Gomez.com and other online rating services to compare different online brokers. What do you find? What are the dimensions of comparison?
2. Can pure online banks compete successfully with established brick-and-mortar banks that have online presences? If so, how? If not, why not?
3. As the economy grows richer, the value of time (its opportunity cost) increases on average. What does this do to the choice between managing one's own finances and hiring a professional? Is it an either-or choice, or can it be a combination? How does technological change affect this "in-house versus outsourcing" decision for households?