Product Convergence in the Financial Services Industry: Permanent Trend or Momentary Illusion?

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Executive Summary

Financial industry executives and policymakers alike disagree on the question of product convergence in financial services. There is no uniform definition of convergence, but even in the various ways the term is understood, there is disagreement as to whether product convergence has occurred, and if it has, whether it has broader implications, particularly regarding regulatory consolidation.

The purpose of this study is to set out a definition of financial product convergence, identify the forces affecting convergence, determine the extent to which financial institutions find their products competing with those from across the financial services industry today, and determine whether convergence is likely to continue in the future. From this fact base, the study assesses how well the current financial services industry regulatory framework relates to the current state of the industry and serves the needs of consumers.

Financial product convergence is defined as having occurred when eligible consumers view products from different financial industries as virtual equivalents. Virtual equivalence is further defined as the situation when two product's economic outcomes or risk characteristics are highly similar.

The study found that three strong factors and one weak one affect product convergence. The three strong factors are: consumer preference, the nature of information products, and technology. The relatively weak factor is regulation.

Further, the study found that product convergence, as defined, is occurring in three ways: across financial industry boundaries with traditional products, across industry boundaries with hybrid products that have the characteristics of products from multiple industries, and unregulated products that are identical and offered across industry boundaries or else that are unregulated and compete with regulated products. In addition, the integration of distribution channels in the financial services industry, while not a form of convergence in itself, promotes convergence in important ways.

With regard to the sustainability of the convergence trend, the study finds no factors that will impede convergence. A panel of financial industry experts concluded that convergence is a long-term trend and identified the benefits to consumers and other strong market forces as dominant reasons why.

The study determines that the current regulatory structure is confusing, at best and vulnerable to regulatory arbitrage by sophisticated industry participants, at worst. The study indicates that it is inappropriate to regulate products with similar economic characteristics in different ways. The study concludes that since financial product convergence has occurred, the only logical recommendation is that financial regulation should be consolidated to reflect that reality.

I. INTRODUCTION

To provide clarity and focus for this discussion, we must define the term convergence as it pertains to the financial services industry in the United States. Convergence of financial products has occurred when eligible consumers view products from different financial industries as virtual equivalents. Not all financial products are intended for or available to all institutional or retail consumers equally, so universal availability is not a criterion of convergence as we define it. In addition, we will deem products to be virtual equivalents when their economic outcomes or risk characteristics are highly similar.

It is hard to deny that financial product convergence is occurring. Consumer preferences and competitive pressures force it, technology enables it, distribution channels need it, industry executives assume it, and regulators have no reason to inhibit it.

Types of convergence

The study showed that convergence is taking place across three broad product categories.

1. Traditional products, cross industry -- when products that are traditionally associated with a given financial industry, e.g., insurance or banking, compete head to head.
2. Hybrid products -- when products from different financial industries combine to form a third product. Identical hybrids may be treated differently when offered by a bank or by a securities firm, for example, thus encouraging regulatory arbitrage.
3. Unregulated products -- when virtually identical products are offered across financial industries without regulatory consequence.

In addition, distribution channel integration, while not a form of product convergence itself, plays a large part in the phenomenon. It occurs when one industry's sales force sells products from other financial industries, e.g., when insurance salesmen sell securities products.

What fuels convergence

At the core of the convergence explosion are consumer preferences, the nature of information products, and technology. A final element, perhaps most notable for its relatively minor role, is regulation.

- Consumer preference

Either implicitly or explicitly, consumers understand that financial products always involve a balance of risks and returns. Risk is defined as the probability that an adverse

financial outcome will occur due to any factor including decline in market value, adverse natural phenomenon (e.g., weather), or default by a counterparty. Return is defined as the amount of money available, net of all taxes, charges and fees, when promised.

Because both retail and institutional consumers' financial circumstances can change at any time, their tolerance for risk and their expectation of returns are dynamic. Customers rarely, if ever, speak of their risk and return preferences in terms of specific products. Instead, they describe desired outcomes that have implicit risk and return equations.

Consumer preferences for these outcomes -- described as accumulation or protection outcomes -- represent the most important driver of financial product convergence. Consumers accumulate, for example, by saving for a financially secure retirement and keeping working capital employed to ensure the best returns for shareholders. They protect by buying life insurance that can be converted into an annuity to pay for terminal care, and buying business insurance to cover potential hurricane-related losses. Or they may take advantage of another protection mechanism and swap variable interest rate payments for fixed rate payments for five years.

Some recently introduced hybrid or structured products, e.g., variable annuities anchored in hedge funds that also have a life insurance component, deliver both accumulation and protection. Increasing sophistication among retail and institutional customers and their advisors makes these complex products more viable. Nonetheless, as a member of the executive interview group said, "With financial products, simplicity is crucial."

Given that both retail and institutional consumers seek accumulation and protection, it should come as no surprise that there is a high degree of convergence among financial products. While the actual products that any individual or institution holds will vary, by constraining the end-game, we have forced convergence. Because these consumer preferences seem to be universal and deeply ingrained, we are likely to sustain convergence as well. Finally, there should be no shortage of products to converge: financial products are proliferating rapidly as financial institutions offer outcomes tailored to the various desires of their clients.

Such an emphasis -- or overemphasis -- on tailoring products to individual customer needs was a characteristic of the 1990's. Some new products did not achieve the scale required to become economic for the financial industry as a whole or for the financial institutions that introduced them. Consequently, many of the executives interviewed for this study noted that they were experiencing a different kind of convergence, trimming their product portfolios to create appropriate scale in the remaining products.

- Nature of information products

Consumer preferences create the demand for financial products and what goes into specific financial products is the response. Financial products are intangible and, at their core, essentially information products. They have "content value," which is how

consumers differentiate one product's future value to them versus another. Content includes all the terms that define a financial product: tax and regulatory capital treatments, payment timings and amounts, rates and indexes, financial guarantees and counterparty credit risk exposure, and embedded optionality features, such as event triggers. Content is what must go into a financial product to ensure that it will deliver the specific economic outcome the customer is expecting.

From a product development standpoint, compelling content is always a winner for a financial institution. Customers will seek out superior financial products almost regardless of the difficulty. As various members of the executive group commented, these products tend to have the best margins. It is for this reason that financial institutions invest significant amounts of money in product development. It is also what spurs copying, replication and competition among all players and across all parts of the financial services industry. It is at the heart of financial product convergence.

This cross-industry product mimicking has gone on at least from the time we separated the financial services industry into separate regulatory sectors in the 1930's. Because the basic components of financial products are information, financial institutions could for a long period in history maintain an initial product advantage simply by being secretive with their proprietary information. But as our executive group noted, media and information technology advances in the last twenty years have increased the scope and the pace of product replication simply by making information more readily and widely available. Furthermore, consumers have access to the same information as financial industry players and have come to expect a choice of competitive products. While regulatory boundaries may initially limit imitators to those within the same industry, attractive margins draw competitors eventually from other industries, as well.

- Technology

Information technology was cited as an important facilitator of financial product convergence by nearly all the executives interviewed. One senior executive said that over the last few years the pace of convergence has accelerated because technology advances have driven the price of information nearly to zero. The widespread availability of information delivered by increasingly inexpensive technology enables, for example, an institutional salesman to show a customer on-line the advantages of a swap transaction versus a commercial loan. A retail financial advisor can easily demonstrate the tax benefits of a variable annuity compared to an alternative investment product. Technology increases the pace of product convergence by eliminating the information advantage that was traditionally enjoyed by financial institutions.

Advances in information technology have literally made many new products possible. Equity derivatives linked to stock indexes, if possible at all, would not be nearly as important if there were no advanced technology to support them. Money market mutual funds would not be possible if the technology did not exist to support the rapid pace of purchases, redemptions and maturing values of the short-term instruments that underlie them. The pace of technology innovation is unlikely to abate in the foreseeable future.

Product convergence is likely to continue and accelerate simply because information on consumer preferences and potential responses will become available more widely and rapidly. Another executive put it this way, "Technology means that new ideas can be copied in 24 hours."

- Regulation

The last element in financial product convergence is the attitude of key industry executives toward regulation**.** A lawyer who is now General Counsel of a major Wall Street securities firm told the author at one time, "Only two things are required to accomplish change in the financial services industry: sex appeal and a legal handle. And sufficient sex appeal will obviate the need for a legal handle." Sex appeal in product development is usually defined as an innovation that satisfies a customer need. As one of the senior executives interviewed recently said, "Customer needs as impacted by market conditions will always drive product innovation. Innovators will always outwit regulators."

Another member of the senior executive group put it this way, "We assume that we can find a way around any regulation that seems like it will get in our way and we lean on regulatory barriers when it suits our purposes." The regulatory silos that define the financial industry in the United States seem to be viewed by financial industry executives as quaint ways of periodically reporting the data, but have little to do with the way the business is actually run.

A corollary point was made by another senior executive when he said, "What's driving convergence is that each individual financial industry has reached an equilibrium point and needs to look like another in order to grow." This executive stressed that it was only important to **look like** another industry, not actually enter that industry.

Financial regulation in the United States grew up around the notion that different types of financial institutions have different economic rationales, particularly regarding how they attract customers and intermediate risk. The impact of the Depression on the safety and soundness of the financial system resulted in almost complete functional regulation of financial institutions.

Since most of our major financial industry regulation was enacted, significant changes in technology and consumer preferences have taken place. Pervasive electronic mass media and information technology have enlarged the potential customer base of each type of financial institution so that they almost completely overlap. Consumers have become better educated and more sophisticated regarding economic outcomes, instead of products, and this, in turn, has made them largely indifferent to the type of financial institution they deal with or variations in how financial industries are regulated.

Regulations cannot keep strong market forces at bay forever. As previously mentioned, regulations have not been a major factor in deterring product convergence, whether they were intended to be or not. But that is not the point. Our purpose here is not to challenge

the current state of financial regulation or to imply that it poses a problem. Rather, our purpose is to argue that if product convergence has occurred then the only logical conclusion is that financial industry regulation should be consolidated to reflect today's realities.

II. CONVERGENCE: TRADITIONAL PRODUCTS, CROSS INDUSTRY

Over the past seven years, United States households in aggregate have changed the kinds of financial assets they hold. While these shifts do not indicate product convergence per se, they do suggest that consumers view financial assets as highly fungible. As Table 1 shows, over the period 1995 to 2001, households and non-profit organizations held life insurance and pension funds at a steady percentage of total financial assets. Important movements took place in their holdings of corporate and non-corporate equities, mutual fund shares, personal trusts and debt securities.

Specifically, during the build-up of the Internet stock "bubble" in 1998, deposits in banks slipped to 12.9 percent of household financial assets from 15.3 percent in 1995, while corporate equities ballooned to 23.2 percent in 1998 from 19.2 percent in 1995. In addition, consumer preference for participation in the fruits of the bull market was demonstrated by a dramatic increase in household investment in mutual fund shares, from 5.4 percent of household financial assets in 1995 to 9.1 percent in 2001. On the losing side of the equation, household investment in personal trust accounts at banks and trust companies slipped from 3.7 percent in 1995 to 2.8 percent in 2001. Finally, household investment in debt securities fell from 9.1 percent of the total in 1995 to 7.3 percent in 2001. At least until the end of 2001, fixed return investments appear to have fallen somewhat out of favor.

Some of the apparent movement noted in these numbers is illusory. Because the equity-related numbers are "marked-to-market," they are reported at their period-end value. Households that simply bought and held equity-related products saw them increase as a proportion of their total holdings, because equities increased in value more rapidly than the rest of their investments. Nonetheless, the degree to which consumers actually move from asset class to asset class is central to the question of how prevalent product convergence is in the United States.

Table 1

Financial Asset	1995 $ Bn	1995 %	1998 $ Bn	1998 %	2001 $ Bn	2001 %
Deposits	3,298	15.3	3,927	12.9	4,828	14.9
Life insurance	566	2.6	718	2.4	880	2.7
Pension fund reserves	5,671	26.2	8,208	26.9	8,694	26.8
Corporate equities	4,139	19.2	7,098	23.2	6,077	18.8
Non-corporate equity	3,598	16.6	4,286	14.0	4,877	15.1
Mutual fund shares	1,159	5.4	2,401	7.9	2,955	9.1
Personal trusts	803	3.7	1,001	3.3	912	2.8
Debt securities	1,963	9.1	2,304	7.5	2,370	7.3
Other	420	1.9	599	1.9	809	2.5

Total	21,617	100.0	30,542	100.0	32,402	100.0

Source: Flow of Funds Accounts of the United States, September 16, 2002

As will be shown later in this study, many of the asset classes noted here are key areas of product competition for financial institutions.

Examples of convergence

The executives participating in the study were first asked what products from other financial services industries competed with their products. Every executive cited at least two products and a few had longer lists. The converged products included among many others: certificates of deposit vs. fixed annuities, swaps vs. commercial loans, variable annuities vs. mutual funds, time deposits vs. life insurance, commercial paper vs. institutional money market funds, principal protected notes vs. fixed income mutual funds, hedge funds vs. mutual funds, and managed accounts vs. bank trust accounts. The Appendix contains a listing of financial products that were identified by the expert group as having converged.

One senior executive asserted that, "You'll be hard pressed to find a single product that isn't offered by another competitor and that competitor will frequently be from another industry." Another executive added, "There are literally hundreds of examples of converged products and more all the time as institutional products are made available to retail consumers."

In the following sections, we will examine representative product pairs that were identified as having converged and whose convergence has potential public policy implications. This chapter focuses on products that compete across financial industries. In Chapter III, we will analyze the convergence of hybrids. Chapter IV will discuss the convergence of unregulated products, and Chapter V, the integration of distribution channels. We will see that consumer preferences are driving financial product convergence regardless of how industries are currently defined.

Our analyses of these product pairs will cover economic outcome or risk equivalence from the customer's perspective, structural similarities, and relative volumes. Table 2 summarizes the conclusions regarding the cross-industry product pairs discussed in this chapter.

Table 2			
Product Pair	**Economic/ Risk Equivalence**	**Structural Similarities**	**Relative Volumes**
Banking vs. Insurance			
Time & savings	H	M	M

deposits/Fixed annuities			
Performance standby letters of credit/Surety bonds	H	M	H
Securities vs. Banking			
Money market mutual funds/Demand deposit accounts	H	L	H
Medium term notes & commercial paper/ Commercial loans	M	M	M
Insurance vs. Securities			
Variable annuities/ Equity mutual funds	H	H	M
Reinsurance/ Catastrophe bonds	H	H	L

Banking vs. Insurance

- Time and savings deposits vs. fixed annuity contracts

Product convergence is often driven by business necessity. One banking executive explained it this way, "Ten years ago, maybe even five, we (in the banking industry) were very concerned about disintermediation (losing deposits to non-bank competitor products like money market mutual funds). I would have been shot for suggesting that we sell some other firm's fixed annuity (insurance) product. The situation today is that we actually make more money selling someone else's fixed annuities than we do our own certificates of deposit. It also provides a better return for the customer."

It is clear that these two products have converged because they share a number of similar economic outcome and risk attributes. Consumers see them as financial instruments that require their money to be unavailable for a specified period of time while it accumulates value at a fixed rate. Undoubtedly, tax considerations, government guarantees and a

number of other factors affect individual consumer purchasing decisions. As the executive quoted above said, bankers are beginning to market these products as equivalents.

Initially, group annuities were offered to companies as a way to fund pension plans, but individual annuities began to approach the level of group annuities sales in the 1980's. In 2000, according to the American Council of Life Insurers, individual annuity contracts of all types accounted for over 46 percent of total annuity sales in the United States.

Annuities are typically purchased for the benefit of individuals even if they are part of a group contract. Therefore, the data we examine in this section for time and savings deposits are those reported for households and non-profit organizations only. Since annuity considerations are a flow, it is more appropriate to measure them against the flow of funds into time and savings accounts rather than against the level of time and savings accounts.

As Table 3 shows, fixed annuity contracts, both individual and group, have grown significantly in popularity over the past fifteen years. Nonetheless, retail flows into annuity contracts from both individual and group sources have varied substantially year-over-year.

Table 3 In $ Billions Year	Individual Fixed Annuities	Group Fixed Annuities	Time and Savings Deposits
1986	20.8	54.8	91.8
1987	27.1	52.2	126.2
1988	39.3	56.9	160.7
1989	43.1	62.9	79.3
1990	47.7	72.0	30.5
1991	43.3	68.8	-70.9
1992	45.3	67.0	-102.2
1993	50.5	72.1	-108.6
1994	51.9	64.0	-29.6
1995	48.8	71.9	127.1
1996	44.4	76.3	153.3
1997	41.8	75.7	131.9
1998	41.4	76.8	166.5
1999	47.1	77.6	55.5
2000	54.9	88.8	262.0

Sources: Annuities—American Council of Life Insurers; Deposits—Flow of Funds Report September 16, 2002

What is most striking about this table is the four years of negative flows into time and savings accounts in the early 1990's. This was the initial period where annuities were being marketed as having mutual fund performance with an added tax-deferral benefit. In addition, the stock market was beginning to show signs of a sustained rally after the

shocks of 1987 and 1989. Indeed, this is the type of disintermediation to which the banking executives quoted previously were referring. It would be inaccurate to conclude that all or even a majority of the outflows from time and savings deposits were going directly into fixed annuities. There are many products that compete for the cash that is available when time and savings deposits mature.

While comparable annuity data (for the year 2001) are not currently available, the data on household and non-profit organizations' time and savings deposits show flows in the year 2001 of $200.7 billion, a drop of over $60 billion from the previous year. It is highly likely that when the data covering fixed annuity considerations for 2001 are available, they will show an increase over 2000.

At the beginning of this section, we noted that banks were becoming important distribution channels for non-bank financial products. In the early 1980's an opposite case was observed as savings and loan associations paid securities brokers commissions for selling their high-yielding certificates of deposit. The emergence of the internet allowed consumers to search quickly and easily for high-yielding certificates of deposit without having to rely on a broker for that information—or having to pay a broker's commission. Today, many securities brokers are cross-licensed and sell fixed and variable annuity and insurance products, as well as securities products.

The point that the distribution channels in financial services are actively selling out-of-sector products (e.g., bank branch-based personnel selling insurance) is particularly notable in terms of convergence and will be explored more fully in a later chapter.

- Performance standby letters of credit vs. surety bonds

The Federal Deposit Insurance Corporation, the government body charged with collecting statistics on all kinds of bank obligations, defines performance standby letters of credit as an irrevocable obligation of "the financial institution (bank) to pay a third party beneficiary when a customer fails to perform some contractual non-financial obligation." Performance standby letters of credit differ from regular letters of credit in that the standby letter of credit will not be used unless a specific triggering event occurs.

Since the times of the Roman Empire, parties entering into a business relationship have sought certainty. Arrangements would be made among the party with a requirement to perform, the party for whom the action was to be taken, and a third party who would step in to fulfill the agreed upon obligation should the original party fail to perform. This simple structure is the historical antecedent of modern surety bonds.

The first domestic corporate surety company, the United States Fidelity and Casualty Company of New York, was established in 1880. Today, large construction projects and government contracts frequently require the winning contractor to secure a surety bond before the project begins.

One of our criteria for assessing convergence is whether each product in the pair produces a similar economic outcome or risk profile for the consumer. Letters of credit and surety bonds provide the owner of a building under construction with nearly identical outcomes. However, letters of credit diminish the building contractor's borrowing capacity and must appear on the financial statements as a contingent liability. Surety bonds, on the other hand, do not affect the contractor's borrowing capacity, so he can use available capacity to expand operations rather than to provide completion security. Despite this important difference, these two products have converged and compete directly with one another for the same customers.

The Surety Association of America, the surety industry's trade association, has documented this convergence. It has produced a pamphlet entitled "Letters of Credit: No Substitute for Surety Bonds." The Introduction says, "In recent years, some obligees (e.g., building owners) have turned to letters of credit to provide financial protection instead of surety bonds. A cursory comparison of letters of credit and surety bonds indicates that both instruments provide similar financial protection." The pamphlet goes on to explain in detail the differences and potential advantages of the surety bond product.

Table 4 shows the growth of these two products over the past eight years, from 1994 through 2001. The data are not strictly comparable since the information on performance standby letters of credit from banks shows the level of outstanding obligations, while the data on surety bonds concern net premiums written, i.e., the flow of new surety bond business. Nonetheless, we can compare the overall growth of the products.

Table 4		
(in $Billions)		
Year	**Performance Standby LOC Outstanding**	**Surety Bonds Net Premiums Written**
1994	46.059	2.202
1995	43.141	2.527
1996	40.710	2.606
1997	44.598	2.744
1998	43.915	3.047
1999	45.183	3.253
2000	50.067	3.328
2001	50.791	3.059

Sources: LOC—FDIC; Surety bonds—Financial Services Fact Book 2003

In both products, the level of activity has been relatively stable over the past eight years. Performance standby letters of credit have shown a 1.23 percent and surety bonds a 5.32 percent compound annual growth rate over the period.

Securities vs. Banking

- Money market mutual funds vs. demand deposit accounts

Demand deposit accounts are what consumers and institutions commonly refer to as checking accounts. These accounts provide liquid funds that can be accessed by simply giving a payee a check or draft to present to the payor's bank for final settlement. Customers can write checks frequently throughout the day but checks are not settled until an overnight processing cycle is complete. Therefore, the balances in demand deposit accounts can fluctuate widely and strain the reserve requirements of the banking system. Before Regulation Q went into effect in 1933, interest-bearing demand deposit accounts encouraged fierce competition among banks for large balances, to the detriment of the banking system. By prohibiting interest on such accounts, Regulation Q reduced volatility and in effect forced consumers to pay for convenience and liquidity.

In 1971, when the first money market mutual fund was launched, Regulation Q limited the amount of interest a bank could pay on time deposit accounts to between 4 ¾ and 5 ½ percent (with an additional ¼ point allowed for savings institutions between 1973 and 1982) and, as previously noted, zero on demand deposit accounts. Inflation was eating away at consumers' buying power and there was strong market demand for a product that was both liquid and paid interest.

Money market mutual funds combined ready access to funds like a checking account while paying interest on the balances. Money market mutual fund shares are securities invested in highly-liquid, short-term interest bearing securities and money market instruments. These mutual funds are required to publish a net asset value daily and distribute an annual prospectus. While there can be minor differences in how the checks or drafts drawn on banks and money market funds are processed for settlement, the average consumer would be hard-pressed to tell the difference. The physical checks from a bank and a money market fund are nearly identical. Consumers see demand deposit accounts and money market mutual funds as highly interchangeable, or virtual equivalents.

Converged products by definition must represent similar economic outcomes or risk equivalence. Initially, money market mutual funds were perceived as riskier than bank accounts and were slow to be adopted by consumers. The Investment Company Institute notes that money market funds held only $1.7 billion in assets at the end of 1974. That number more than doubled to $3.7 billion at the end of 1975, but did not cross the $10 billion mark until sometime in1978 and the $100 billion mark until 1981. The enactment of the Depository Institutions Deregulation and Monetary Control Act of 1980 effectively ended the prohibition of interest on demand deposits. With checking accounts paying competitive interest rates, consumers saw money market mutual funds and demand deposit accounts as providing equivalent economic outcomes. The perception of higher risk shifted to the banking industry when it encountered problems in the 1980's.

Today, money market funds are offered with a variety of features and tax-efficiencies to satisfy all manner of retail and institutional consumers' needs. As shown in Table 5, balances in money market mutual funds grew ten-fold, from $219.9 billion to $2.2 trillion, over the twenty-year period from 1982 to 2001.

As Table 5 also shows, demand deposit accounts have not grown at the same rate as money market funds over the last twenty years, but they have remained an important product in the financial services marketplace. As of the end of 2001, demand deposits stood at $627.5 billion.

Table 5 In $ Billions Financial Asset	1982	1985	1989	1992	1996	2001
Demand deposit accounts	370.9	453.5	479.5	532.9	636.3	627.5
MMMF shares	219.9	242.4	424.7	539.5	886.7	2,240.7

Source: DDA—FDIC; MMMF--Flow of Funds Accounts of the United States, September 16, 2002

Banks rely on demand deposits as a source of funding for their activities, particularly lending. When the first money market mutual funds were introduced, pundits predicted ruination for banks due to disintermediation. It can be argued that the $2 trillion in money market fund assets would still be held by banks if there were no money market mutual funds. However, much of that money is still available to banks. Money market mutual funds invest in a variety of banking products including bankers' acceptances, letters of credit, and commercial paper.

Nonetheless, one of the senior executives interviewed said, "Banks are still worried about disintermediation. They are concerned about the stability of their deposit base." Bankers apparently see a strong convergence between money market mutual funds and demand deposit accounts, and see it as a threat.

- Medium-term notes and commercial paper vs. commercial loans

Commercial loans are extended by banks on a secured or unsecured basis with a wide range of terms, maturities, and purposes. Most are working capital or term loans, or loans to an individual for a business purpose. Traditionally, banks have raised low-cost capital from low-interest-paying deposit accounts and through the capital markets, and lent money to commercial borrowers at a higher rate, creating a favorable interest spread for the bank.

In the mid-1970's many companies realized that commercial loans were a relatively expensive way to raise capital to finance operations. If a company had a strong balance sheet, it could access the capital markets directly and not have to pay a bank a spread for doing so on its behalf.

Companies began to issue debt obligations that matured in terms between one and ten years from issuance, referred to as "medium term" since they fell between short-term obligations (maturing in under one year) and long term obligations (maturing in ten years or more). Today the typical medium term obligation has a maturity of between three and seven years, which closely corresponds to commercial loan terms, typically one to seven years. Another similarity between medium term notes and commercial loans is that medium term notes can be quickly underwritten by employing a shelf-registration with the Securities and Exchange Commission. In a shelf registration, the issuer (except for banks, whose securities are exempt from this requirement) files a full registration statement with the Securities and Exchange Commission and then sells securities as needed "off the shelf" for up to two years afterward as market conditions allow.

Commercial paper, whose documented history in the United States dates back to 1831, is an unsecured promissory note issued for a specific amount and maturing on a specific date. Commercial paper typically matures in less than 270 days since a longer maturity requires registration with the Securities and Exchange Commission. In common practice, however, most commercial paper is issued to mature in 30 days or less.

As we noted previously, both commercial loans and medium term notes are easy to issue. However, medium term notes require registration with the Securities and Exchange Commission as a security, while neither commercial loans nor commercial paper require any registration. Because commercial paper maturities do not exceed nine months and proceeds typically are used only for current transactions, the notes are exempt from registration. Nonetheless, they are securities and banks are forbidden to underwrite them for that reason.

In contrast to commercial loan borrowers, commercial paper issuers must pay the prevailing rate for short-term funds every time their paper matures, or approximately every thirty days. In a positively-sloped yield curve environment, this means that a commercial paper issuer is normally able to raise funds more cheaply than through a three to seven year commercial loan. However, significant market shocks do occasionally occur and make it prohibitively expensive to issue short-term obligations.

Because of this possibility, entities that are significant issuers of commercial paper frequently hedge their exposure to short-term interest rates by arranging for lines of credit at banks to cover all or at least a large portion of their outstanding paper. From a convergence standpoint, this seems to be a strong indication that customers see these two products as highly interchangeable. The Federal Reserve, whose charter includes tracking activity in the money markets in the United States and abroad, discussed convergence between these products in "FedPoint 29: Commercial Paper." It says, "Commercial paper is short-term, unsecured debt issued in the form of promissory notes, and sold by financial organizations as an alternative to borrowing from banks or other institutions. The paper is usually sold to other companies which invest in short-term money market instruments….Interest rates on commercial paper often are lower than bank lending rates,

and the differential, when large enough, provides an advantage which makes issuing commercial paper an attractive alternative to bank credit."

Medium-term notes compete for specific customers

Commercial loans remain an active and viable financial product despite the emergence of medium term notes and commercial paper. Nonetheless, commercial loans are an example of a highly converged financial product. One executive told us, "Corporate lending probably converged the fastest of all banking products. Today there are literally a dozen less expensive, more liquid, non-bank ways for a corporate client to borrow money than to take a loan from a bank. It has really made loans a small-time product for most banks." Another executive added, "Only the biggest global banks can afford to leverage their balance sheets to offer rates (to corporate clients) that are competitive with the securities markets." Commercial lending has become a significantly more concentrated product in terms of the number of banks that offer competitively priced loans, but as shown below, the overall level of commercial loans continues to grow.

As Table 6 shows, while medium term notes have grown significantly in popularity in the past nine years, they still lag behind commercial loans.

Table 6				Commercial Banks	Savings Inst.
In $ Billions	MTNs	MTNs	MTNs Non-	Comm.	Comm.
Year	Total All Issuers	Financial Isssuers	Financial Issuers	& Indust. Loans	& Indust. Loans
1993	210.9	125.4	85.5	538.6	9.8
1994	235.5	145.9	89.6	589.1	9.9
1995	267.5	171.1	96.4	661.4	12.2
1996	287.3	194.5	92.8	709.6	14.9
1997	302.1	221.2	80.9	795.0	16.2
1998	388.7	290.4	98.3	898.6	21.1
1999	420.6	320.2	100.4	969.3	27.1
2000	446.4	349.3	97.1	1,052.0	34.0
2001	479.2	384.9	94.3	983.5	36.7

Sources: MTNs—Federal Reserve; Commercial loans—Federal Deposit Insurance Corporation

Financial corporations are the dominant issuers of medium term notes, representing $385 billion of the total outstanding at the end of 2001. In terms of convergence, financial corporations do not view medium term notes as an alternative to commercial loans, but as an alternative to other debt securities products such as commercial paper or long-term debt. Financial corporations tend to manage their financial exposure along the entire yield curve to provide maximum flexibility with regard to interest rates.

Despite the slow growth in outstanding issues of medium term notes from non-financial institutions, some businesses have found them to be an alternative to commercial loans, which demonstrates convergence. Over the period from 1993 to 2001, the level of outstanding medium term notes from non-financial institutions varied from a low of $85.5 billion to a high of $100.4 billion. During the same period, commercial loans from commercial banks alone varied from between $538.6 billion and $1,052.0 billion, or from 6 to 10 times as much outstanding.

Until 1982, savings institutions were prohibited from making commercial loans (which may still constitute only twenty percent of a savings association's assets). As shown also in Table 6, these institutions have provided an important additional source of commercial loans.

Comparing commercial loans and medium-term notes illustrates another point about convergence. Convergence implies that certain customers view product alternatives as highly interchangeable in terms of the financial outcomes they produce. It does not imply that all customers have these alternatives open to them equally.

Table 7 highlights the point that product convergence is a way of segmenting the market for certain products. Clearly, not all corporations can or will issue medium-term notes. Nonetheless, many of those that do issue these obligations view them as a direct alternative to commercial loans.

The number of non-financial corporations issuing outstanding medium-term notes has remained fairly stable over the past nine years at roughly 250 to 290 firms. This self-selected group has the wherewithal to access the capital markets, and while fewer than 300 corporations do not represent a majority of U. S. businesses by any measure, these companies have obtained the advantages of convergence.

Table 7
Number of Issuers of Outstanding MTNs

Year	All U.S. Issuers	Financial Corporations	Non-Financial Corporations
1993	367	115	252
1994	376	114	262
1995	401	121	280
1996	411	126	285
1997	435	156	279
1998	460	167	293
1999	456	170	286

2000	460	177	283
2001	461	176	285

Source: Federal Reserve

As the executive quoted at the beginning of this section said, businesses have a number of alternatives to commercial loans. With a market value of nearly $480 billion at year-end 2001, medium term notes seem to have converged to some extent with commercial loans. A small, relatively constant number of potential corporate borrowers are issuing medium term notes at a moderate and stable level. Convergence for these two products has occurred and stabilized in a relatively small universe.

Commercial paper competes more generally with commercial loans

The commercial paper market, like the medium term note market, is characterized by a variety of issuers -- financial institutions, industrial companies and foreign entities -- who access the market for different reasons. Understanding these reasons helps us to gauge the extent of convergence and its likely sustainability. Financial companies access the commercial paper market in order to manage their interest rate exposure across the entire yield curve. As noted in our discussion of medium term notes, financial companies do not generally view commercial paper as an alternative to commercial loans. However, they also employ at least partial stand-by lines of credit from banks as a hedge against short-term interest rate fluctuations.

Industrial companies employ commercial paper as an inexpensive alternative to commercial loans. Traditionally, industrial companies have issued commercial paper through dealers (as opposed to financial companies that usually place paper directly with investors). Recently, a number of industrial companies have begun to issue commercial paper directly to investors, competing with the securities dealers that formerly placed paper on their behalf.

Finally, foreign entities, including sovereign governments and government agencies as well as foreign banks and corporations, have become important participants in the United States commercial paper market. Some do so to meet dollar-denominated obligations, others to arbitrage international currency or interest rate differences. In the case of arbitrage, dollars raised through commercial paper issuance are then swapped into whatever international currency is desired. Foreign entities are not viewing commercial paper as an alternative to commercial loans, but rather as an alternative to the foreign exchange market.

In recent years, the United States commercial paper market has grown significantly, even outstripping the size of the United States Treasury bill market. Table 8 compares the size and growth of the commercial paper and commercial loan markets over the past nine years.

Table 8 In $ Billions Year	Commercial Paper Domestic Non-Financial Issuers	Commercial Paper Domestic Financial Issuers	Commercial Banks Comm. & Indust. Loans	Savings Inst. Comm. & Indust. Loans
1993	128.0	366.5	538.6	9.8
1994	150.8	416.4	589.1	9.9
1995	170.0	461.5	661.4	12.2
1996	168.7	552.2	709.6	14.9
1997	181.7	720.4	795.0	16.2
1998	208.9	879.6	898.6	21.1
1999	252.3	1,057.8	969.3	27.1
2000	306.8	1,182.7	1,052.0	34.0
2001	210.5	1,119.4	983.5	36.7

Sources: Commercial paper--Federal Reserve (December month-end seasonally adjusted); Commercial loans—Federal Deposit Insurance Corporation

Once again, the pattern indicates that these products have converged. Let us compare the volume of commercial paper issued by domestic non-financial companies with commercial and industrial loans issued by commercial banks. While commercial loans still dominate this product space, commercial paper is a significant competitor. At year-end 2000, bank-issued commercial and industrial loans outstanding were only slightly more than three times the size of the commercial paper market for non-financial issuers.

As we saw with medium-term notes, not every company that might want to issue commercial paper as an alternative to a commercial loan is in a position to do so. Nonetheless, over 1,000 domestic companies regularly issue commercial paper and the number is increasing at a steady pace. Roughly one third of those issuers are non-financial companies.

Finally, the impact of technology and distribution channels on convergence can also be demonstrated in a small way by the emergence of direct issuers in the commercial paper market. There are two methods of marketing commercial paper. In most cases, the issuers sell the paper to a large securities firm or subsidiary of a bank holding company, which re-sells the paper in the market.

Alternatively, the issuer can sell the paper directly to the buyer. Direct issuers of commercial paper are usually financial companies that have frequent and sizable borrowing needs, and find it more economical to place paper without an intermediary. On average, direct issuers save a dealer fee of 1/8 of a percentage point, or $125,000 on every $100 million placed. This savings compensates for the costs of maintaining a permanent sales staff and providing technology support to market the paper and settle the transactions.

In the past ten years, according to the Federal Reserve, non-financial companies have placed as much as $24 billion and financial companies nearly $350 billion of direct commercial paper in a month. As mentioned above, direct issuers are competing with the securities firms and banks that used to place debt on their behalf. Distribution convergence, in this regard, seems to go beyond even the traditional boundaries of the financial services industry.

Insurance vs. Securities

- Variable annuities vs. equity mutual funds

The concept underlying annuities is that an investor sets aside monies today that will accumulate or retain value and provide a stream of payments in the future. Annuities offer a variety of both premium and pay-out structures and can be invested in fixed return instruments, variable return instruments, or both. Mutual funds also allow investors to set aside money with the expectation that it will accumulate or retain value over time and be available for other uses later. Mutual funds can also be invested in fixed, variable or a combination of instruments.

In 1952, the first variable annuity was created in the United States. Variable annuities credit interest based on the performance of separate accounts within the annuity. Variable annuity owners could choose what type of accounts they wanted to use, and often received modest guaranteed returns from the issuer in exchange for greater risks they assumed. These separate accounts were either invested exclusively in equities or some combination of equities and fixed income instruments.

From a convergence standpoint, investors who consider these two products are making trade-offs concerning liquidity preferences and potential future tax rates, but the underlying economic and risk attributes are very similar. Annuities are an insurance product, so the gain in the value of the underlying separate account investment accumulates (referred to as the "inside build-up") tax-deferred until the pay out period of the annuity begins. Taxes are due on the payments from the annuity as they are received. With a mutual fund, taxes are incurred on any increase in a fund's value whether or not an investor takes a distribution in any given year. Mutual fund investors pay taxes as the value of the fund increases, but not when monies are drawn out in the future.

Annuities are not liquid, and investors pay a substantial penalty if they withdraw funds before maturity. Mutual funds are liquid and can be withdrawn at any time without penalty. However, many annuities have a life insurance death benefit attached to them that will pay if the owner dies before the annuity period is scheduled to begin. One senior insurance executive who was interviewed as part of this study noted, "Variable annuities with a death benefit are marketed as tax-deferred mutual funds with a free physical."

Mutual funds have mushroomed in popularity over the past two decades. In fact, today there are roughly as many mutual funds as there are listed equities. Mutual fund complexes, eyeing the growing annuity marketplace, began creating separate accounts that insurance companies could use for annuity products. These accounts were managed much like their mutual fund counterparts, but were designed specifically for use in tax-deferred variable annuities. Given this development, it is possible for individuals to invest with a well-known and successful mutual fund manager and achieve similar returns to a mutual fund investor. Clearly, annuity and mutual fund products have converged in many ways.

Table 9 depicts individual and group variable annuity considerations and equity and hybrid (mixed equity and fixed income) mutual fund net new cash flows for the 15-year period covering 1986 through 2000. The numbers show the flow of funds into various products as opposed to the level of outstanding product.

Table 9 In $ Billions Year	Equity Mutual Funds	Hybrid Mutual Funds	Individual Variable Annuities	Group Variable Annuities
1986	21.7	5.6	3.8	54.8
1987	19.0	4.0	3.9	52.2
1988	-16.1	-2.5	2.0	56.9
1989	5.8	4.2	3.7	62.9
1990	12.8	2.2	3.5	72.0
1991	39.4	8.0	5.4	68.8
1992	78.9	21.8	11.2	67.0
1993	129.4	39.4	22.9	72.1
1994	118.9	20.9	23.3	64.0
1995	127.6	5.3	22.6	71.9
1996	216.9	12.3	33.2	76.3
1997	227.1	16.5	43.8	75.7
1998	157.0	10.2	49.2	76.8
1999	187.7	-12.4	63.1	77.6
2000	309.4	-30.7	77.1	88.8

Sources: Annuities—American Council of Life Insurers; Mutual Funds—Investment Company Institute

What strikes us from the table is that individual variable annuities have grown much as equity mutual funds have over this period: the twenty-fold increase in individual variable annuities ($3.8 billion to $77.1 billion) closely parallels the fourteen-fold increase in equity mutual fund net purchases ($21.7 billion to $309.4 billion). Interestingly, given that the equities market was in the midst of a raging bull market in the late 1990's and into 2000, hybrid mutual funds, which have some fixed income exposure, were net losers of cash flow in 1999 and 2000 and generally lagged the popularity of their straight-equity counterpart over the period.

These products undoubtedly converged when it could be said that annuities were not invested "just like" mutual funds, but in fact were invested in mutual funds. Not all financial products examined in this study will be as "cross-constructed" as annuities and mutual funds have become, but when they are, the fact of convergence is hard to deny.

- Reinsurance vs. catastrophe bonds

Insurance and reinsurance both operate on the principal of mutualization of risk. That is, the optimal way of ensuring that a loss from any individual occurrence will be covered is to spread the risk of loss over as large a population of premium payers as possible. In this way, the law of large numbers applies in that the likelihood of a loss being suffered by any individual insured is low. Relatively small premiums will cover relatively large potential losses.

Reinsurance works like regular insurance, except that a portion of the losses from a given risk or class of risks will be covered by a different insurance company than underwrote the original risk. In exchange for this loss coverage, the reinsuring company receives a portion of the premium collected by the original underwriter. By employing reinsurance, a property and casualty insurer can diversify its risk portfolio and expand its underwriting capacity.

Both insurance and reinsurance are offered and priced assuming that the normal pattern of losses (predicted by the law of large numbers and actuarial science) will apply. What causes profitability and even survival problems for the insurance industry are losses that affect large numbers of insureds at one time. Whether natural or man-made, large-scale disasters create "catastrophic" losses that affect large amounts of property at once and strain the financial capacity of the insurance and reinsurance industries. It is one thing to pay to restore a home destroyed by a storm, it is quite another to pay for hundreds destroyed by a hurricane.

Because of the need to spread the risk of loss as widely as possible, reinsurance has become a complicated global product. Reinsurance is codified in individual agreements that define with great precision the amount of protection provided and the circumstances under which that protection will be triggered. This means that the reinsurance "product," particularly that which is aimed at covering catastrophic losses, is unique and specific in each case. Many industry-specific reinsurance companies have been established in tax-friendly jurisdictions such as Bermuda to provide highly specialized (e.g., nuclear power plant accident insurance) yet cost-effective coverage.

The economics of the property and casualty insurance business follow a cycle. Generally, property and casualty insurance is sold for a one-year term. Premiums are calculated based upon projected losses plus administration and distribution costs. If a larger than anticipated loss occurs, the insurance company issuing the policy suffers a financial loss in that year. However, the company can begin to offset that loss by raising premiums (sometimes significantly) and avoiding a major loss during the next year.

When premiums are high and loss experience is low, property and casualty insurers are profitable and can build reserves or surplus against future losses. When catastrophes occur, industry capacity becomes restricted for a variety of reasons. First, local regulators demand that the underwriting insurance company has greater reserves to be able to cover losses of the magnitude recently suffered. This means that more of the premiums collected will go toward building a cushion than building the capacity for new coverage. Second, some insurance companies simply refuse to write new coverage for certain kinds of risks until the market recovers or sometimes, ever again. Finally, reinsurance companies demand a greater portion of the premium collected (effectively, a price increase) to reimburse them for their recent loss experience.

The cyclicality and resultant need for capital make the property and casualty insurance industry interesting from a product convergence standpoint. Clearly, finding additional sources of capital would allow the insurance industry to provide coverage to all who seek it and to price that risk as efficiently as possible. This is the notion behind a security called a catastrophe bond. Catastrophe bonds or "cat" bonds have been developed to provide capital for specific risk coverage. The first catastrophe bonds were issued in 1995.

As an example, a catastrophe bond (actually, notes due to their short, usually one or two year, maturity) might be issued to provide excess of loss coverage against the risk of tornado-related property damage in the Midwest United States. Insurance companies that underwrite property coverage in the Midwest have developed sophisticated computer models to predict the number of tornados and amount of damage that will occur in a given year. This capability allows insurance companies to price the "normal" level of loss that they underwrite as part of business tornado insurance. If a business wants a large amount of coverage to protect against unusual damage, an insurance carrier arranges for excess of loss coverage. Because excess of loss can exceed the amount of insurance a carrier may legally provide to any single insured, the company must ensure that there is adequate external capital to cover any potential losses due to the risk. Typically, a carrier would seek to reinsure this risk. An alternative to reinsurance is catastrophe bonds.

Catastrophe bonds operate in the following way. The bonds are issued to fund a specific type of disaster-related loss (e.g., tornado or typhoon). The yield is tied to how well the insurer does with losses related to that specific type of risk in a given coverage period. If the insurer has few losses, the investor receives higher than market returns. If the insurer suffers significant losses, the investor can forfeit returns and principal. Occasionally these bonds are issued in tranches related to the order that principal will be called upon to satisfy loss coverage. An investor can hedge the likelihood of principal loss by giving up some potential return in exchange for being behind others when it comes to paying for a given level of loss.

If an investor wanted to be exposed to a certain kind of risk, he or she could simply buy equity in an insurance company that offers that type of insurance coverage. Unfortunately, that choice exposes the investor to a blind risk pool because of all the

other kinds of risk that the carrier underwrites. In addition, the returns the investor receives will reflect the loss experience of all the products that the insurance company issues.

Investors are attracted to catastrophe bonds because they frequently provide what are called "uncorrelated positive excess rates of return." In other words, these securities offer the potential for returns that are higher than and unrelated to the performance of the rest of the United States capital markets. It has been argued that the capital markets are the most efficient means of assessing and pricing risk in the world. Given that there are investors who are interested in the potential returns that these bonds represent, one might assume that we would observe a high degree of convergence between them and reinsurance.

Table 10 shows the level of catastrophe bond issuance from 1996 through 2001. While the amounts seem small, the aggregate capital of the primary insurance and reinsurance industries in the United States is an estimated $250 billion. Property in the United States has an estimated aggregate value of somewhere between $25 and $30 **trillion**. Clearly, not all property is exposed to catastrophic risk and not all exposed property is insured. Nonetheless, significant catastrophes such as major hurricanes or the World Trade Center disaster, where the losses are in the tens of billions of dollars, create severe financial pressure on the entire insurance industry. By comparison, the estimated aggregate value of the capital markets is $20 trillion. Insurance and reinsurance executives see closer alignment with the capital markets as a means of augmenting the insuring capacity of their industry.

Table 10
Catastrophe Bond Issuance

Period	Amount in $ Millions	Number of Transactions
1996/Prior	288	6
1997	657	6
1998	1,211	14
1999	1,059	12
2000	1,136	9
2001	778	6

Sources: Goldman Sachs; ISO Properties, Inc.

In assessing whether two products have converged, we look at the similarities of economic outcomes or risk characteristics between the products. For property owners looking to access insurance for specific, devastating events, catastrophe bonds and reinsurance provide highly similar results. During the period covered by the insurance policy or the term of the bond, if a catastrophe occurs that meets the triggering criteria, the property owner will be made whole financially. Investors have the choice of returns tied to a specific risk (e.g., a natural disaster) with catastrophe bonds or a broad array of

property-related risks through participation in a reinsurance syndicate. In either case, the nature of the risk and return equation for them is the same.

However, other factors affect the degree of convergence we might observe between catastrophe bonds and reinsurance. As noted previously, some of these bonds have been structured to require a portion of the invested principal to be at risk in order to cover losses. Certain types of institutional investors, most importantly pension funds, cannot invest in instruments that put principal at risk. To date, catastrophe bonds have not been designed to replace traditional reinsurance, but rather to supplement it. Future catastrophe bond innovations could broaden the uses of these instruments to cover more kinds of insurable events and attract additional investors.

Another factor affecting the acceptance of catastrophe bonds is simply the economics of the property and casualty insurance business as reflected in the typical catastrophe bond structure. As noted previously, what is required to provide investors with above average returns is a low level of losses in the period the bonds cover. Unfortunately, the decade of the 1990's witnessed numerous highly destructive disasters, as shown in Table 11. Man-made disasters are included only to demonstrate that events other than natural disasters can put additional stress on the capacity and financial viability of the insurance and reinsurance industries.

Table 11			Insured Loss	
Date	Event	Type	In $ Billions	Country
27-Sep-91	Typhoon Mireille	Natural	7.1	Japan
29-Apr-92	LA Riots	Man-made	0.8	USA
23-Aug-92	Hurricane Andrew	Natural	19.6	USA, Bahamas
26-Feb-93	WTC Bombing	Man-made	0.5	USA
17-Jan-94	Northridge Earthquake	Natural	16.3	USA
19-Apr-95	Oklahoma Bombing	Man-made	0.5	USA
11-Sep-01	WTC Attack	Man-made	35.0-45.0 E	USA

Source: Company reports; National Association of Insurance Commissioners

Table 12 shows how the level of disaster (both natural and man-made) losses has increased dramatically in the past thirty years. This pattern of loss volatility and increasing size has dampened interest in both catastrophe bonds and reinsurance. Prior to 1989, the insurance industry had never experienced aggregate disaster-related losses (natural and man-made) approaching $20 billion in one year. From 1990 through 2001,

the industry suffered losses approaching $20 billion (and sometimes significantly higher) in eight out of twelve years.

Table 12 Insured Losses In $ Billions (at 2001 prices)		
Year	Natural Disasters	Man-made Catastrophes
1970	2.72	1.81
1971	0.60	1.36
1972	2.29	1.81
1973	2.15	2.37
1974	4.89	2.38
1975	1.49	2.33
1976	2.00	2.63
1977	1.02	3.38
1978	1.88	2.51
1979	3.66	5.08
1980	1.85	4.18
1981	1.04	1.59
1982	3.95	3.08
1983	5.36	2.28
1984	2.97	1.93
1985	4.94	2.85
1986	2.00	2.88
1987	8.96	3.85
1988	3.45	6.46
1989	12.60	7.09
1990	19.16	4.37
1991	16.30	4.38
1992	30.90	5.34
1993	8.48	5.38
1994	21.57	4.95
1995	16.82	2.56
1996	9.27	4.92
1997	4.62	3.15
1998	16.47	3.79
1999	28.77	4.60
2000	8.36	3.14
2001	10.00	49.00

Source: SwissRe

All in all, we can say that reinsurance and catastrophe bonds have converged. There has been a modest level of catastrophe bond issuance activity in the past seven or eight years, and market conditions may currently make catastrophe bonds unattractive. Nonetheless, there has been considerable positive response by the insurance industry press to catastrophe bonds and what is referred to as the "securitization of reinsurance" or "insurance-linked securities." Knowledgeable investors have accepted the bonds.

III. CONVERGENCE: HYBRID PRODUCTS

Consumer preferences have a profound impact on the design of financial products in this country. The fungibility and mobility of money are powerful forces that shape how institutions and individuals impact our financial system. While we are most interested in how those forces impact the regulatory environment from a cross-sector (e.g., banking vs. insurance) perspective, these forces operate without regard to the pre-determined, and somewhat arbitrary, regulatory boundaries we have established. The products described in this chapter actually have attributes of multiple financial industries (e.g., securities and commodities or banking, insurance and securities). This situation creates regulatory confusion at the very least, and the strong possibility of regulatory arbitrage at worst.

Product convergence has begun to draw the interest and attention of financial industry regulators, among others. The Federal Reserve Bank of Chicago's web-site under the Bank Supervision and Regulation section has an article entitled "Convergence Products on the Horizon" which includes the following,

> …at least one company has unveiled a true "convergence product." On April 9, 2001, Jackson Federal Bank, a subsidiary of Lansing, Michigan-based Jackson National Life Insurance Company, unveiled a certificate of deposit for IRAs that links its rate of return to performance of the S&P 500 over three term periods, but guarantees the initial deposit if held to maturity. Jackson Federal Bank is distributing this product through Jackson National insurance agents, broker-dealers, the 14 California branches of Jackson Federal Bank, and other banks. This product is a "convergence product" because it has the elements of banking (the CD itself), investments (the use of the S & P 500 as the linking base), and insurance (via the agent distribution channels and the index-linking, which Jackson uses in equity index annuities).

During the recent equity market volatility, many retail investors tried to keep the core value of their assets from declining precipitously, while also staying positioned to participate in any equities market rally. The hybrid product highlighted by the Federal Reserve Bank of Chicago aims to do just this: give retirement oriented investors a combination of economic outcomes -- participation in broad equity market results coupled with downside protection for the initial investment -- in a single product.

The Jackson Federal Bank product is closely related to hybrid principal protected notes which banks and securities firms recently introduced in response to increased market volatility. While the product is described as a note, it actually has different structures depending upon the type of financial institution that is offering it. Generally, principal protected notes are structured as medium term notes or equity derivatives. It is sign of regulatory confusion when structurally different products are called the same thing, are

intended to create the same economic outcome, and are being marketed to the same potential customers.

Principal protected notes usually put investor's money initially in aggressive equity investments, frequently hedge funds. If the value of the hedge fund falls to a certain pre-determined level (called the "defeasance trigger") in a specific time period, the investors' money is taken out of the hedge fund entirely and put into zero-coupon bonds. In addition, the notes may also carry a guarantee of full repayment of the principal offered by a bank or insurance company. Money invested in this product must normally be locked up for long periods, typically five to ten years.

The American Stock Exchange lists a number of principal protected notes for trading, most of them tied to the performance of the Standard & Poors 500 or other stock index. These listed products are being marketed in retail-sized units valued at $1,000. To date, the issue sizes have been modest, in the $10 million to $25 million range. Most of these exchange traded principal protected note products have been listed recently (2002).

Other principal protected notes are aimed at high net worth individuals and have significantly higher minimums, usually $100,000. Some of these provide guaranteed minimum returns as well as guaranteed return of principal at maturity. Not all of these issues are tied to the performance of equities; some marketers of principal protected notes highlight their low correlation to any major stock index.

The "convergence product" described by the Chicago Federal Reserve Bank at the beginning of this chapter is a variation of the principal protected note product. We should highlight a few points about this product example. First, the product described is a bank product -- a **certificate of deposit --** not a security. If a securities firm were to package a product that put a portion of an investor's initial money into a zero-coupon bond and invested the balance in the SPDR exchange traded fund, it would have to be registered with the Securities and Exchange Commission as a **security**. But, in fact, it would use the same underlying components and produce the same economic result as the convergence product. In addition, as the article mentions, insurance, banking, and securities sales personnel all sell the product. Specific sales practices or sales registration requirements do not cover certificates of deposit. Both the product creation and sales techniques employed in this example create the possibility for regulatory arbitrage. Diversified financial firms can choose which specific industry will introduce the new product to gain the most favorable regulatory treatment. Second, a key regulator has recognized that there are hybrid products, responding to consumer preferences, which do not easily fit into a single category of regulatory definition or oversight.

Another variation of this regulatory confusion was evidenced in the recent discussions between the Securities and Exchange Commission and the Commodities Futures Trading Commission concerning which entity would regulate futures on individual equities. According to the CRS Report for Congress dated October 10, 2000, "In September 2000, the Securities and Exchange Commission and the Commodities Futures Trading Commission reached an agreement on how single-stock futures should be traded and

regulated. The two agencies coined the term "security futures" for single-stock or narrow-index futures contracts. The agreement calls for them to be traded on both stock and futures exchanges, with all traders subject to the core principles of both futures and stock regulation. Clearing houses that cleared security futures would have to be linked, and margin requirements for security futures would have to be at least as high as margins for comparable stock options." This hybrid product seems to have joint regulatory parentage.

Finally, other industry observers have noted the trend toward financial product hybrids that appear to go beyond current regulatory boundaries. Here is what J. Heyward E. Sloane, Executive Director of the Bank Securities Association, wrote in the May 20, 2002 edition of The National Underwriter:

> "More recently, Bank of America superceded GLB (the Gramm-Leach-Bliley Act) altogether. It has substituted 'debt cancellation' for 'credit life insurance,' simplifying the solution to a marketplace need. Stepping back, this shift makes perfect sense. Given that banks have practiced the art of managing loan loss reserves (self-insuring for credit losses) literally for centuries, the bank executives must have asked at one point, why should we add an insurance product with its regulatory layer and resultant expense?"

We have seen that consumer preferences drive how financial institutions respond with new products. Consumers rarely concern themselves with which regulator oversees a given product. Occasionally, the products they want cut across financial industries and other times they do not. But the driving consumer force is unaware of or ambivalent about how those sectors are organized. More and more, it is becoming difficult for anyone, including the regulators, to describe which industry a given product falls into.

IV. CONVERGENCE: UNREGULATED PRODUCTS

As the previous two chapters showed, the regulatory environment becomes clouded as we consider products from different financial industries that provide similar economic outcomes and appear to consumers as virtual equivalents. The regulatory environment becomes even more murky as we look at products that are nearly identical, but can be offered by different industry players (and are regulated differently). In this chapter the regulatory environment becomes downright opaque as we consider convergence between products that are unregulated and, therefore, can be offered across all the industries, and that also compete with regulated products such as commodities or mutual funds.

- Derivatives

In the late 1980's, the senior officer of a derivatives firm (called a "swap dealer" then) said to the author, "We can create a derivative that replicates the cash flows of any other financial instrument." At the time, it sounded like typical Wall Street "masters of the universe" hubris. In the intervening fifteen years, the comment has increasingly come to reflect reality.

One could argue that derivatives represent the most highly evolved form of product convergence we have considered. So-called "over the counter" derivatives can be offered by any financial institution because they are unregulated. In fact, banks, securities firms and insurance companies can all create and sell exactly the same product and there is incentive to do so. Standardized products are easier to replicate and offer to a competitor's clients. In addition, these products also frequently compete with regulated commodities products.

The name derivative is applied to a variety of instruments whose performance is "derived" from or based upon that of another instrument or index. Derivatives such as futures and options trade on exchanges and have standardized terms. They can also be sold over the counter, with terms that are either standardized or customized, and the transactions occur directly between the financial institution arranging the deal and the customer.

In the early 1980's, the financial industry introduced a new over the counter derivative product called swaps, in which an exchange of principal amounts never occurs. With futures, options and even forwards, it is possible under certain circumstances to be required to accept or deliver the commodity or security to which the derivatives contract refers or to pay or receive cash. Swaps as a financial product are essentially what their name implies: one stream of cash flows is exchanged or "swapped" for another. Swap transactions do not typically get recorded on the balance sheet of the arranging financial institution or either counterparty to the transaction.

Over the counter derivatives are unregulated

As previously mentioned, swaps, and over the counter derivatives in general, are unregulated financial instruments in the United States because these transactions are deemed to occur "off balance sheet." Since a derivatives transaction does not result in either an increase or decrease in the assets or liabilities of the arranging financial institution, regulators take the position that these products represent no increase in risk to the financial system.

Since the beginning of 1990, however, United States commercial banks have been required to provide information about their swap positions in the call report to bank regulators. More specifically, banks are required to report the positive replacement costs of their swap contracts to the regulators. Yet this requirement to report on one aspect of these products does not constitute regulation of either derivatives or, in this case, banks.

In a similar vein, in the late 1990's the securities industry lobbied for and received permission to establish special purpose broker/dealers, referred to as a "broker/dealer lite." These entities were not established to regulate derivatives transactions, but rather to facilitate the regulatory capital accounting on the half of the broker's position ledger that represented hedges in securities and commodities. When swaps were originally developed, the arranging financial institution ran a "matched book" of transactions. This meant that both legs of a derivatives transaction were arranged with customers simultaneously. As the volume of transactions grew, the arranging financial institutions could no longer conveniently and rapidly find a customer to take the other side of a derivatives transaction. Instead, they were hedging unmatched derivatives positions with either bonds or futures. Off-setting long and short positions in either securities or commodities require less regulatory capital than either straight long or short positions, but in these transactions, the off-balance sheet derivatives half of the transaction was not on the books at all. This made it appear as if the derivatives dealers were being exposed to market risk and were therefore required to set aside significant regulatory capital. The broker/dealer lite solution was to bring the derivatives positions essentially onto the ledger for regulatory capital calculation purposes. Once again, this change did not regulate derivatives or alter how the securities industry is regulated.

There was significant discussion of changing the regulatory status of swaps and other derivatives in the Congressional hearings that preceded the enactment of the Commodities Futures Modernization Act of 2000. But in the end, the swaps product and most of the over-the-counter derivatives market remained unregulated.

Most swaps now have highly standardized terms, which enhance liquidity and promote convergence. The swap industry's trade association, the International Swaps and Derivative Association, has developed a number of standardized swap contracts to reflect various interest and foreign exchange indexes (e.g., LIBOR) and terms.

Listed and over the counter derivatives converge

Another sign of convergence in the derivatives markets is the fact that as of October 2001, the Chicago Board of Trade began trading futures contracts based upon the highly popular International Swaps and Derivative Association Benchmark Rate for 5-year and 10-year U. S. dollar interest rate swaps. More importantly, on November 8, 2002 the Chicago Board of Trade launched **options** trading on the 5-year and 10-year swaps **futures** contracts.

The Chicago Board of Trade is introducing these products in a highly converged way to take advantage of a swap market that has a notional amount outstanding of slightly more than $14 **trillion** at the end of the first half of 2001, by the Board of Trade's estimates. Investors who trade the futures contracts will be able to mitigate counterparty credit exposure because the payments tied to the futures contracts are guaranteed by the AAA-rated Board of Trade Clearing Corporation. In a swap arranged between two counterparties by a swap dealer, the payments in the swap may be interrupted (causing significant inconvenience and financial exposure) if either counterparty or the dealer fails. Unfortunately, the counterparties in a given swap are generally not disclosed to one another by the dealer who arranged the transaction, making it very difficult to assess the full credit risk to which one is exposed.

One important concept in the derivatives product arena is "notional" amounts or values. As described above, in the middle of 2001 the interest rate swaps market for just two products (the 5-year and 10-year "vanilla" swaps) had a notional amount outstanding of over $14 trillion. This means that the interest payments only on $14 trillion of debt were being exchanged. Importantly, very little, if any, of the $14 trillion in principal value will ever change hands.

Table 13 shows the growth in notional amounts over the past fifteen and a half years for all interest rate and currency swaps. These numbers reflect transaction volumes in the over the counter market exclusively. When considering these numbers, one should remember that additional converged volume is traded on the major futures exchanges and in the cash markets for foreign exchange and interest rate products around the world.

Table 13	
In $ Trillions	
Year	Total IR and Currency Outstandings
1987	0.865
1988	1.654
1989	2.475
1990	3.450
1991	4.450
1992	5.346

1993	8.475
1994	11.303
1995	17.713
1996	25.453
1997	29.035
1998	50.997
1999	58.265
2000	63.009
2001	69.207
2002(1H)	82.700

Source: ISDA

From roughly the time of the quote at the opening of this chapter (1987) to the middle of 2002, the total notional value of interest rate swaps (including interest rate options traded over the counter) and currency swaps experienced a staggering 34.2 percent compound annual growth rate. The sheer magnitude of the market makes it clear that derivatives have a major place in any discussion of convergence and financial products.

Over the counter derivatives address both assets and liabilities

Lest we leave the impression that product convergence with respect to derivative instruments, particularly swaps, is limited to the liability side of the balance sheet, we should note that asset swaps also exist. Asset swaps are a highly developed form of exchange that has existed for centuries. In a non-financial setting, you might exchange a drill with your neighbor for a lawn mower.

Although financial asset swaps come in many varieties, a common structure involves the simultaneous purchase of a bond while opening an interest rate swap. An investor who wants a high degree of principal security but also wants exposure to variable interest rates might purchase Fannie Mae fixed-rate bonds and swap for variable rate interest payments at the same time. Other asset swap structures involve arbitrage plays on foreign exchange rates or the ability of a foreign government to revitalize its economy (and consequently, the value of its sovereign debt).

Derivatives come in many, many varieties

Other kinds of derivatives are related to products that we discussed in the previous chapter. One of these is a catastrophe reinsurance swap. With a catastrophe bond, an investor pays cash to receive a note tied to the natural disaster loss experience of an insurance company in a given geography. In a swap, the insurance company receives a guarantee of payment in the event of applicable natural-disaster related losses. The same level of catastrophe coverage is provided for the insured, but the investor can keep his principal capital employed in whatever manner desired until needed. The returns are very similar to those that would have been received if the investor had invested the full principal amount from the outset.

In addition, there are derivatives that have converged with products not previously discussed in this study. Some examples are options and futures on various equities indexes such as the Standard & Poors 500 stock index and the Dow Jones 30 Industrial stock index. Investors trade these derivatives to hedge or quickly increase their exposure to a given index.

Another example is credit default swaps and bond insurance. Bond insurance is purchased by entities from insurance companies to provide investors an additional level of confidence that the principal value of their investment will be returned to them. Under the right circumstances, bond insurance will turn a non-investment grade debt offering into an investment grade offering, thus increasing the breadth of potential investors substantially and lowering the financing costs of the issuer.

A credit default swap achieves the same economic outcome for bondholders as bond insurance. In exchange for regular payments tied to the principal value of a loan or bond, a financial intermediary agrees to repay the principal and accumulated interest in full in the event of a pre-defined triggering action (usually the default of the issuer). The credit default swap may lower the amount of regulatory capital that must be allocated to the underlying debt instrument or simply improve portfolio risk management. Just to put the importance of the derivatives markets and product convergence in perspective, the International Swaps and Derivatives Association only began gathering transaction volume data on credit default swaps in 2000. At mid-year 2002, the notional amount of credit default swaps outstanding was **$1.6 trillion**. To add further to the idea of convergence and regulatory confusion through this example, standby letters of credit, a bank product, are another default protection device used by issuers of and investors in debt instruments. Therefore, in this example we have three competing products: one is unregulated and can be issued by any financial institution, and two are issued by institutions that are regulated, but differently.

When one of the executives interviewed as part of this study was asked what drove derivatives product development, he responded, “The only limitations we really see on new products are the size and potential profitability of the market for the instrument.” He went on to say that the most important aspect of derivatives from his perspective was the fact that they have “a short time to market cycle.” Because derivatives are essentially a form of contract binding counterparties to certain obligations under certain conditions, once a business need for the product has been identified and the market opportunity sized, a short review by a firm’s legal staff may be all that is required to launch a product.

Tax efficiency issues have a large impact on why the derivatives market has evolved to such a massive scale so quickly. Since the users and providers of the products are subject to a wide variety of different tax provisions, it would require a separate study to enumerate all these influences in any meaningful way. Nonetheless, it is important to note from a convergence standpoint that the generally favorable tax environment for derivatives has contributed to their explosive growth.

The major criterion for financial product convergence is whether eligible consumers view the products as virtual equivalents. Derivatives are the definitive example of virtual equivalency. Another criterion is economic performance or risk equivalence from a consumer's standpoint. From the opening paragraph of this section, we have seen that derivatives aim to replicate the cash flows and, therefore the economic performance of competing financial products. As one senior executive said, "The world is cash flows and derivatives are all about cash flows."

Why are derivatives important to this discussion?

The purpose of this section is not to offer an exhaustive discussion of the varieties of derivative instruments and their applications, but to point out the following:

1. Derivatives, by their unregulated nature, are a converged product because different industry participants offer identical products to their customers. Banks, insurance companies and securities firms are competing head-to-head for the same customers with the same derivatives products alone. This raises a point about our regulatory philosophy that will be addressed more fully in 4, below.
2. Derivatives also compete directly with commodities, securities, insurance, and banking products, all of which are regulated and regulated differently. This raises the issues of regulatory consolidation and regulatory arbitrage.
3. Derivatives are embedded in hybrid products offered by regulated institutions. That is, the economic result desired by the consumer requires the combination of both the regulated and the unregulated products. Should our regulatory oversight be limited to the portion of the transaction that is currently regulated, or should we regulate -- or deregulate -- the entire hybrid product?
4. Derivatives are unregulated because they are off-balance sheet transactions and, as such, have been deemed to pose no risk to the financial institutions that transact them. But as we have seen in the example of a broker/dealer lite, regulators have at least agreed to create the illusion that the off-balance sheet items "count" for the limited purpose of perfecting a hedging position. Derivatives compete head-to-head with on-balance sheet products because they create similar economic outcomes. The purpose of financial industry regulation is to ensure the safety and soundness of the financial system by setting rules for the activities of its participants. The on-balance sheet/off balance sheet dividing line may no longer be appropriate for the current sophistication of the institutional markets. As the risk manager of a major oil-trading firm told the author after the Enron collapse that was largely blamed on off-balance sheet energy derivatives transactions, "Everything's got to hit the financial statements somewhere eventually." We should consider deregulating the institutional financial markets entirely to recognize the rapidly emerging reality of how that market operates.

Derivatives raise critical questions both about the need for regulatory consolidation in the United States, as well as the fundamental underpinnings of our regulatory philosophy.

- Hedge funds

No less eminent an authority on financial matters than Federal Reserve Chairman Alan Greenspan has blamed recent stock market volatility on the existence and behavior of hedge funds. This is true in part because this highly popular investment vehicle is exempt from regulation in the United States. If a hedge fund complies with a variety of highly technical and complicated rules relating to its investors and operations, it is outside the oversight of any financial regulatory authority in this country.

Hedge funds have converged with regulated products from banks (trust accounts) and securities firms (mutual funds). They are components of other hybrid products such as variable annuities. This situation creates a significant opportunity for regulatory arbitrage. Because the risk in hedge funds is borne by sophisticated or institutional investors, not financial institutions, regulators have concluded that rules to protect the financial system are not required. Or perhaps, as Chairman Greenspan seems to think, they are.

The exact holdings of hedge funds are difficult to determine since normal securities disclosure rules do not apply. Even the limited partners invested in the funds frequently do not know the actual holdings in the portfolio and the hedge fund managers regard them as trade secrets. Nonetheless, in the late 1990's, favorable publicity and outsized investment returns created significant interest in hedge funds. In 1999, according to the investment firm of Tremont Partners, there were nearly 4,000 hedge funds of various descriptions in operation.

Investments in unregistered securities products like hedge funds are limited by law to a small group of statutorily defined "sophisticated investors." In essence, this means investors who should be able to determine if an investment is appropriate under their circumstances and who can sustain an adverse outcome if they are wrong. Normally, this includes high net worth individuals and large, institutional investors. Because these funds are unregistered, as noted previously, a full range of public disclosure rules do not apply. In fact, the only data available are whatever the hedge funds voluntarily disclose to firms that track fund performance and recommend hedge fund managers to investors. By contrast, the mutual fund industry is required to disclose a great deal of information and to ensure its accuracy.

At year-end 2001, according to TASS Research, a firm that tracks nearly 3,000 active and inactive hedge funds, the total amount invested in hedge funds in the United States is conservatively estimated to be between $450 and $500 billion. By comparison, the aggregate value of equity mutual funds in the United States, according to the Investment Company Institute, at the same date was $3.4 trillion. Nonetheless, given that hedge fund investment is restricted to sophisticated investors whereas mutual funds are intended for everyone, it would be hard to deny that for eligible investors, hedge funds and mutual funds are converged. In fact, for full year 2001, according to Investment Company Institute data, equity mutual funds had net cash in-flows of $32.2 billion and the hedge funds that report to the TASS Research database had net cash in-flows of $31.1 billion.

Table 14 shows aggregate asset values for all mutual funds and TASS Research reporting hedge funds for the past eight years.

Table 14 Aggregate Asset Values In $ Billions		
Year	Equity Mutual Funds	Hedge Funds
1994	852.8	57.0
1995	1,249.1	72.3
1996	1,726.1	99.2
1997	2,368.0	144.6
1998	2,978.2	153.8
1999	4,041.9	197.2
2000	3,962.0	217.7
2001	3,418.2	261.4

Sources: Mutual Funds—Investment Company Institute; Hedge Funds—TASS Research

Over the eight-year comparison period, both products have displayed tremendous growth. Equity mutual funds have shown an impressive 18.95 percent compound annual growth rate over the period, yet hedge funds have outpaced them with a 20.97 percent compound annual growth rate.

Nearly all of the executives we interviewed who are directly involved in the asset management business see hedge funds having converged with traditional mutual funds. Executives from all the trust banks and mutual fund complexes in this study noted that in the last five years, hedge funds have been very effective in draining them of the assets of their best customers. But convergence implies interchangeability that goes both ways. As a senior executive from a hedge fund boutique noted, “The most aggressive push we have seen recently has been to make hedge funds available in smaller, retail pieces. Boston Partners has listed a hedge fund on the Fidelity platform.”

Another product for smaller investors is a fund-of-funds that invests in one or more underlying hedge funds. The minimum investment for a typical hedge fund is at least $1 million and can be as high as $10 or $25 million. But by pooling the assets of several smaller investors, an investment manager can make hedge fund performance available to a broader investing public in smaller minimum investment increments, some as low as $5,000. Once again, from a regulatory standpoint, we see a significant area for regulatory confusion. Are hedge funds only appropriate for “sophisticated investors,” which is part and parcel the reason they are unregulated, or not?

Most of the distribution channels that recommend investments to high net worth individuals (e.g., registered representatives of securities firms, independent financial

planners, and bank trust departments) have begun to include hedge funds on their menus of available products. As noted elsewhere in this study, distribution channel overlap with competing products is a sign of convergence.

A further sign of convergence is the embedding of hedge funds into other financial products, creating a hybrid product structure. As one executive from the insurance industry noted in an interview, "Hedge funds have traditionally been a terribly tax-inefficient investment. We have seen insurance companies putting hedge funds into variable annuity and variable universal life products as a way of taking advantage of the insurance tax deferral while achieving hedge fund performance."

Principal protected notes also take advantage of hedge funds. In order to achieve better than market rates of return, sponsors of some principal protected notes are putting the original investment amounts into hedge funds. This practice is particularly controversial; many notes have a trigger mechanism that forces a sell-out of the hedge fund position if a preset decline in market value occurs during the term of the note.

Hedge funds have converged with regulated products, particularly mutual funds and bank trust accounts, and are likely to continue to converge as they keep competing for assets across the spectrum of retail, high net worth, and institutional investors. Like derivatives, they also create a host of important regulatory questions.

- Stored value cards

From a convergence and regulatory reform perspective, stored value cards are an example of what may be on the horizon. Stored value cards represent purchasing power that is recorded on the magnetic stripe of a plastic card that looks very much like a credit card.

Historically, stored value cards served a very narrow purpose as a replacement for paper gift certificates (which have targeted merchant acceptance), prepaid telephone cards, or traveler's checks. Today, stored value cards are helping all kinds of businesses place more consumer and business-to-business spending on card products. As an example, an office supply stored value card limits how much can be spent in total for incidental supplies. Many of these cards offer non-monetary enhancements such as loyalty points or other frequent-usage rewards to encourage adoption by both issuers and consumers.

Currently, stored value cards and other devices like them (e.g., smart cards and e-wallets) are viewed by the regulators as liabilities, but not deposits, thus allowing non-banks to issue them. That is, they are unregulated. Accurate data on the value of stored value cards outstanding are difficult to obtain, but the Federal Reserve and other financial and payments industry sources estimate the current value of these instruments to be as high as $10 billion.

Stored value cards meet our criteria for convergence. Consumers and businesses see them as virtual equivalents to cash and bank-issued, thus regulated, debit cards. In terms of risk

equivalence and economic performance, they are nearly identical, except that stored value cards shift the float on the unused stored value balances out of the banking system.

While stored value cards tend to represent only a single, virtual "wallet," so-called "smart cards" are able to store multiple "wallets" on a single chip embedded in a card. This means that a consumer can carry one card that has credit, debit, and stored value balances available on it simultaneously.

Again in this example, we see the emergence of an unregulated product that is responding to strong consumer preferences and is parallel to a regulated financial product. At the least, we are creating regulatory confusion around a product that is supported by rapidly developing technology.

V. CONVERGENCE: DISTRIBUTION CHANNELS

Convergence is of interest to us because of its implications for questions of public policy. In the United States, the public policy issues in financial services are divided into two broad groupings. The first group has to do with capital adequacy and the safety and soundness of each institution in the financial system. This has largely been at the core of the discussion in the previous three chapters on product convergence. In this vein, when we look at financial products we consider the amount of capital that must be set aside by a given institution to assure that all future obligations and guarantees to the consumer can be fulfilled. We also require that all regulated financial institutions disclose certain information on their continuing financial condition so that investors and others can make well-informed decisions regarding the risks inherent in a given financial product and a given financial institution.

Convergence affects not only products, but also their distribution. This leads us to the second group of public policy issues, which concerns sales practices: licensing and supervision of financial professionals, product function, feature, and risk disclosures, and product advertising standards, among others.

In previous chapters, we saw converged products made available through a converged distribution channel. A banker reported that his branch personnel were selling more fixed annuities than a traditional banking product, time deposits, for example. The same individual frequently sells variable annuities and mutual funds. Commercial paper is occasionally sold directly by an issuing company that has nothing to do with financial services.

It is a common maxim in the financial services industry that most financial products are sold, not bought. Customer preferences are guided and shaped by intermediaries who have a dual interest in providing the best economic outcome for a customer and earning a living. Customers, both institutional and retail, do not typically ask for a specific product from a specific financial institution. Rather, they describe desired outcomes to an intermediary whose task it then becomes to interpret these desires and to satisfy them through a specific set of products. One executive underscored the importance of intermediaries, saying, “For financial institutions, the ‘product’ is a relationship and relationships are precious and expensive.”

Several of the senior executives we interviewed focused on the increased interaction between product-supplying institutions and expanded distribution channels. A senior executive said that financial institutions were either about relationships (distribution) or products, or sometimes both in a given institution. To be successful, institutions with relationships should promote an “open architecture” and put non-proprietary, potentially cross-sector, product through that distribution channel. Institutions that supplied products

should find more distribution channels, potentially in other industries, for a given proprietary product. Either way, he said, "Increased convergence is the outcome."

Table 15 summarizes the breadth of financial products that are available through selected financial institutions. This table does not suggest that all products are available through a single distribution channel for each institution, but in many cases they are. What strikes us is that many companies offer products that with compete with one another, as we noted in our discussion of product pairs in previous chapters.

Indeed, large financial complexes can use product and channel convergence for their own purposes. As a senior executive of a multi-sector institution said, "We were concerned that the success of our money market mutual fund product was making us too dependent on the wholesale capital markets. We decided to enhance the attractiveness of our bank deposit product to create a substitute for the money market product. It was quite successful. End consumers are indifferent to actual product structures."

Table 15	**Financial Products Available Through Major Financial Institutions**	**As of August, 2002**							
Sector	**Auto/ Home Ins**	**Life/ Hlth Ins**	**Comm Ins**	**Annuities**	**Ret Fds ***	**Pers Bkg**	**Sec/Inv Bkg**	**Comm Bkg**	**Mtges/ Credit Cards**
Diversified									
General Electric	X	X	X	X	X		X		X
Citigroup	X	X	X	X	X	X	X	X	X
American Express	X	X	X	X	X	X	X	X	X
Securities									
Merrill Lynch		X		X	X	X	X	X	X
Lehman Brothers	X	X		X	X	X	X	X	X
E*Trade Group	X	X		X	X	X	X		X
Commercial Banks									
JP Morgan Chase	X	X	X	X	X	X	X	X	X

Wells Fargo	X	X	X	X	X	X	X	X	X
Savings Banks									
Golden State Bancorp	X	X	X	X		X	X	X	X
Sovereign Bancorp	X	X	X	X	X	X	X	X	X
Property/ Casualty									
Am. Intl. Group	X	X	X	X	X	X	X		X
Nationwide	X	X	X	X	X		X		X
Life/Health									
Met Life	X	X	X	X	X	X	X		
Prudential	X	X	X	X	X	X	X		X
Mass. Mutual		X		X	X		X		X

*Sources: Fortune; Insurance Information Institute * Includes annuities, mutual funds and IRAs*

How effective have these alternative distribution channels been for financial institutions? Table 16 shows the income from mutual fund and annuity sales of the top ten banks and thrifts for the year 2001. While none of the institutions has broken through the $1 billion income mark and the income listed is a small percentage of the total for most of them, these banks are generating as much income from these products as some medium-sized insurance or mutual fund complexes.

Table 16	**Top 10 Banks and Thrifts Income From Mutual Fund and Annuity Sales, 2001**	
In $ Millions		
Rank	**Bank/Thrift**	**Sales***
1	Bank of America NA	680.0
2	Mellon Bank NA	665.3
3	First Union NB	536.0
4	PNC Bank NA	501.8
5	JP Morgan Chase Bank	388.0
6	Wells Fargo Bank NA	357.0
7	Bank of New York	186.7
8	Washington Mutual Bank	179.9
9	Fleet NA Bank	175.0
10	Citibank NA	168.0

Sources: Singer's Annuity & Funds Report; Financial Services Fact Book 2003
**Includes primarily gross commissions and may include investment advisory fees*

Banks also actively sell insurance products. According to the 2002 American Bankers Insurance Association Study of Leading Banks in Insurance, total net premiums written

for all types of insurance sold through banks reached $55 billion in 2001, which represented a 23 percent growth over the previous year. For commercial insurance lines, net premiums written totaled $8.9 billion, representing a **65 percent** growth over the previous year. Table 17 shows total bank insurance net premiums written over the past five years.

Table 17		
Net Premiums Written by Banks (in $ Billions) Year	**Total Bank Related**	**Commercial Lines**
1997	28	2.8
1998	31	4.0
1999	37	4.4
2000	45	5.4
2001	55	8.9

Sources: ABIA; Reagan Consulting

Turning to distribution channel convergence, this same study by the American Bankers Insurance Association noted that bank insurance agents linked with commercial bankers 88 percent of the time as their primary distribution channel for commercial insurance sales. For personal insurance sales, telemarketing, agents in a branch, and agents working directly with commercial bankers each accounted for 21 percent of sales. Finally, the study concludes that banks' interest in actually underwriting insurance, that is manufacturing it, has been and continues to be low.

Distribution channel convergence is important for two reasons: first, products from across various financial industries are made available to consumers through a single point of contact, which promotes product convergence. Second, much of the accumulated financial regulation in this country has to do with sales practices as they apply to a given financial services industry. Clearly, consumers are being encouraged by financial services firms to view a single provider as the source of all their financial products whether that firm manufactures them or not.

VI. CONVERGENCE: LOOKING AHEAD

In the previous four chapters, we have demonstrated that convergence has occurred, both in products and in product distribution channels in financial institutions. Products traditionally associated with a given industry, that is banking, securities, insurance, commodities and derivatives, frequently compete directly and are viewed as virtual equivalents by consumers. Traditional products are being combined into new hybrids that allow institutions from different industries to offer virtual replicas of a given product, each with a different regulatory treatment depending upon which industry the manufacturing entity inhabits. A large and growing set of unregulated products is offered across industry boundaries. Finally, the distribution channels that market and sell financial products have blurred almost to the point where it is difficult to discriminate one from another.

We have also suggested that three powerful forces and one relatively weak one are having a dramatic effect on convergence. The strong forces are consumer preferences, financial product content, and technology. The weak force is regulation.

The question of what happens next remains open to speculation, but we asked our industry group for their prognostications.

What the experts foresee

The financial industry executive group was asked whether product convergence is a short-term phenomenon or a long-term trend. All but three of the executives felt that it was a long-term trend. A sample of answers, many of which proved very insightful, follows:

- "Product convergence dove-tails with the trend toward consolidation in the financial services industry."
- "Regulation has kept financial institutions unconverged, but successful competitors and their products will all look alike over time."
- "True regulatory reform will be slow to come and demand for broad regulatory change is not incipient."
- "Long term. Product acceptance (of derivatives) by customers and regulators will take time."
- "Convergence is a long-term trend because customer needs are dynamic and ever changing."
- "Long-term. Unless dramatic regulatory reform forces rapid changes in what is basically an evolutionary process."
- "Long-term, but we won't see a stable trend line due to varying market conditions and knowledge absorption lead times (by customers and intermediaries)."

- "Long-term. Differentiated capabilities and market segmentation will be the keys to success for financial institutions; but products, per se, will have less impact on overall differentiation than service and cost."
- "Privacy concerns will be a major factor inhibiting product innovation and making convergence a long-term trend."
- "This (product convergence) is a long-term trend but we will never converge completely. The distribution channels have built-in biases—they're just better at selling one thing than another."
- "Long-term. With an increasing sophistication among customers based upon a better understanding of the risk/return equation."
- "Long-term. Ultimately the current regulatory barriers make no sense and will go away. Technology and increased customer sophistication will inevitably draw products together to look alike."
- "Convergence is in the customer's best interest and is happening in all other industries."
- "Convergence is continual."

Of the group that said that convergence was not a long-term trend, one explained, "Convergence occurs in the context of major regulatory change and it usually happens very quickly. We have not had a significant regulatory change in a long time and I do not see another one happening any time soon."

Most of the comments from the executive group pointed to market forces, particularly consumer preferences, as important factors impacting product convergence in the long term. Some comments suggested that the current unclear regulatory environment could slow the pace of convergence. Since we have seen that regulation is a relatively weak force affecting convergence, our experts may believe that what does not facilitate a trend is standing in its way.

VII. CONCLUSION

At the outset of this study, we endeavored to determine the facts about financial product convergence in the United States. To provide insight and perspective, twenty-five executives granted us formal interviews and a similar number shared their views informally. In addition, data were gathered on specific converged product pairs suggested by the executive group. The data allow us to understand how the products developed and to analyze the behaviors of similar products over time.

As noted in the Introduction of this study, in aggregate it is hard to deny that product convergence has occurred. Powerful economic forces have pushed weak financial industry regulation forces around to the point where industries, products and regulations seem to be confused, at best and the subject of sophisticated arbitrage, at worst.

Convergence has occurred to varying degrees. In some of the product pairs that we examined, convergence only recently occurred but has already stabilized. Some products have not had sufficient time to mature, while others are appropriate for or benefit only certain consumers. Convergence implies that products are virtual equivalents, not exact replicas. Yet for commodity products such as money market mutual funds and demand deposit accounts, for standardized products such as index-oriented securities and commodities, and for derivatives generally, convergence has demonstrably occurred in significant volumes.

Convergence is also, at least for the time being, creating a role for intermediaries as interpreters of customer needs and product features. This seems to be true at both the retail and institutional levels. In fact, when the executive group was asked what might inhibit product convergence, many of them mentioned insufficient education for consumers and intermediaries about the applications for and benefits of new products. The proliferation of financial products, many of them converged and providing similar economic outcomes, means that consumers often seek advice on their choices.

This study was limited to product convergence in the United States. Nonetheless, many of the products operate in a global context. Reinsurance, commercial loans, commercial paper, hedge funds and derivatives of all types are just a few examples. Access to foreign markets by institutional and, increasingly, retail customers create yet another force affecting convergence. Differences in tax and regulatory capital treatments across various global jurisdictions will also affect which products are used and for what purposes. One of the executive interviewees said, “Money is so fungible that it can be easily mixed and matched (around the world).”

So, is product convergence a good thing? If one assumes that providing more choices for consumers is always good, then the answer is yes. However, one particularly thoughtful

senior executive asked at the conclusion of our discussion, "Who is the beneficiary of product convergence? The customer or the financial institution?" His inquiry had two points. First, do customers fully understand the differences in risk that similar, but not exactly duplicative, products represent? And second, do new products actually provide the customer with better economic outcomes than existing products or are they simply a means of generating sales for financial institutions?

We can only hope that technology, intermediaries, and the financial industry regulatory framework will always provide for sufficient disclosure on both points that unnecessarily risky or uneconomic products disappear through market-driven elimination.

Convergence has occurred, it is viewed as generally positive for consumers, it is driven by powerful and continuing forces and it appears to have outrun its regulatory minders. The time is right to re-examine our policy objectives as they relate to oversight and regulation of the financial services industry in the United States. We must consolidate financial industry regulation in a manner that acknowledges the realities of today's financial markets.

NOTES AND ACKNOWLEDGEMENTS

The study presents an analysis based upon two information sources: quantitative data gathered from a variety of publicly available sources and twenty-five formal recent in-person or telephone interviews about financial product convergence with executives from all major segments of the United States financial services industry (banking, securities, insurance, commodities and derivatives). Among the financial institutions represented in the interviews are Bank of America, AXA, CS First Boston, American International Group, Citigroup and J. P. Morgan. This group of twenty-five is the "executive group" or "the panel of experts" referred to throughout the study. Approximately twenty-five other financial industry participants informally provided helpful insight and commentary to the author on specific subjects, as well.

I would like to thank all the individuals who contributed to this study. The following executives provided valuable insights and perspectives on a variety of subjects pertaining to financial product convergence: Brian Abdoo, Patrick Bannigan, St. John Bannon, Tom Beresford, Timothy Bock, Sylvie Bouriaux, Ben Bowler, David Bullock, Shaun Byrnes, Chris Carabell, Larry Caracciolo, Tom Duffy, Joel Kesner, Steve Kim, Keitha Kinne, David Kotheimer, Warun Kumar, John Liftin, Bob Mark, Nassos Michas, Ed Miller, Deanna Mulligan, Wendy Murdock, Chris Murphy, Merry Quackenbush, Richard Salomon, Launnie Steffens, Jerome Walker, and Sharon Weinberg.

I would also like to thank my research assistants who helped dig up the facts that support the analysis presented in this study: Elizabeth Deitrick and Peter Eliot.

Finally, I would like to thank my editor, Barbara Meachin, for her invaluable assistance in turning my simple words into meaningful arguments.

Despite all help I received in developing this study, the responsibility for any errors rests solely with me.

APPENDIX

Partial listing of converged/converging products

Product Pair	Relative Volumes	Structural Similarities	Economic/ Risk Equivalence
Banking vs. Insurance			
Time & savings deposits/Fixed annuities	M	M	H
Surety bonds/ Performance standby letters of credit	H	M	H
Guaranteed investment contracts/Time & savings deposits	L	M	H
Securities vs. Banking			
Money market mutual funds/Time & savings accounts	H	L	H
Commercial loans/Medium term notes	L	L	M
Margin loans/Consumer bank loans	M	L	H
Insurance vs. Securities			
Variable annuities/ Equity mutual funds	M	H	H
Catastrophe	L	H	H

bonds/ Reinsurance			
Commodities vs. Securities			
Single stock futures/Options on individual equities	L	M	M
Unregulated vs. Banking			
Commercial paper/ Commercial loans	M	M	H
Hedge funds/Bank trust accounts	H	L	M
Swaps/ Commercial loans	H	M	H
Unregulated vs. Securities			
Hedge funds/Equity mutual funds	H	L	M
Unregulated vs. Insurance			
Credit derivatives/ Bond insurance	M	M	H
Unregulated vs. Commodities			
Swaps/Swap futures contracts	H	H	H