

**"A FRAMEWORK FOR THE OPTIMUM STRUCTURE
OF FINANCIAL SYSTEMS"**

by

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Abstract

A Framework for the Optimum Structure of Financial Systems

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Few issues are more important in setting the agenda of economic growth than the structure, conduct and performance of a nation's financial system. Standing at the center of the transactions and resource allocation process, high-performance financial systems are increasingly important as determinants of sustainable economic progress and stability. This is as true domestically as it is internationally, where global financial market developments require an efficient "window" on sources and uses of capital as well as market developments and technologies that change in substance and form at a rapid pace. Few countries can afford to be de-linked from these developments -- especially as they develop mature industrial structures and rapidly evolving services sectors -- or fail to create and maintain domestic financial systems that meet world performance standards.

This paper outlines the framework parameters of high-performance financial systems and for financial firms operating in them. We begin with an intuitive structural model of financial intermediation and discuss the various stages of its evolution in terms of static and dynamic efficiency characteristics. We then consider issues facing the participants in, and users of, financial system, with an emphasis on strategic positioning alternatives and determinants of competitive performance. Finally, we discuss the role of regulation as a major factor affecting the performance of the financial system itself, both in the context of the economic development process and as a factor in defining the future of various types of financial firms.

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A Framework for the Optimum Structure of Financial Systems

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Stylized Process of Financial Intermediation

The central component of any model of a modern financial system is the nature of the conduits through which the financial assets of the ultimate savers flow-through to the liabilities of the ultimate users of finance, both within and between national economies. This involves alternative and competing modes of financial intermediation, or "contracting" between counterparties in financial transactions. Here we shall discuss the intermediation framework in terms of a model that can be useful in making defensible prognoses of structural shifts in national and global banking and financial markets through time.

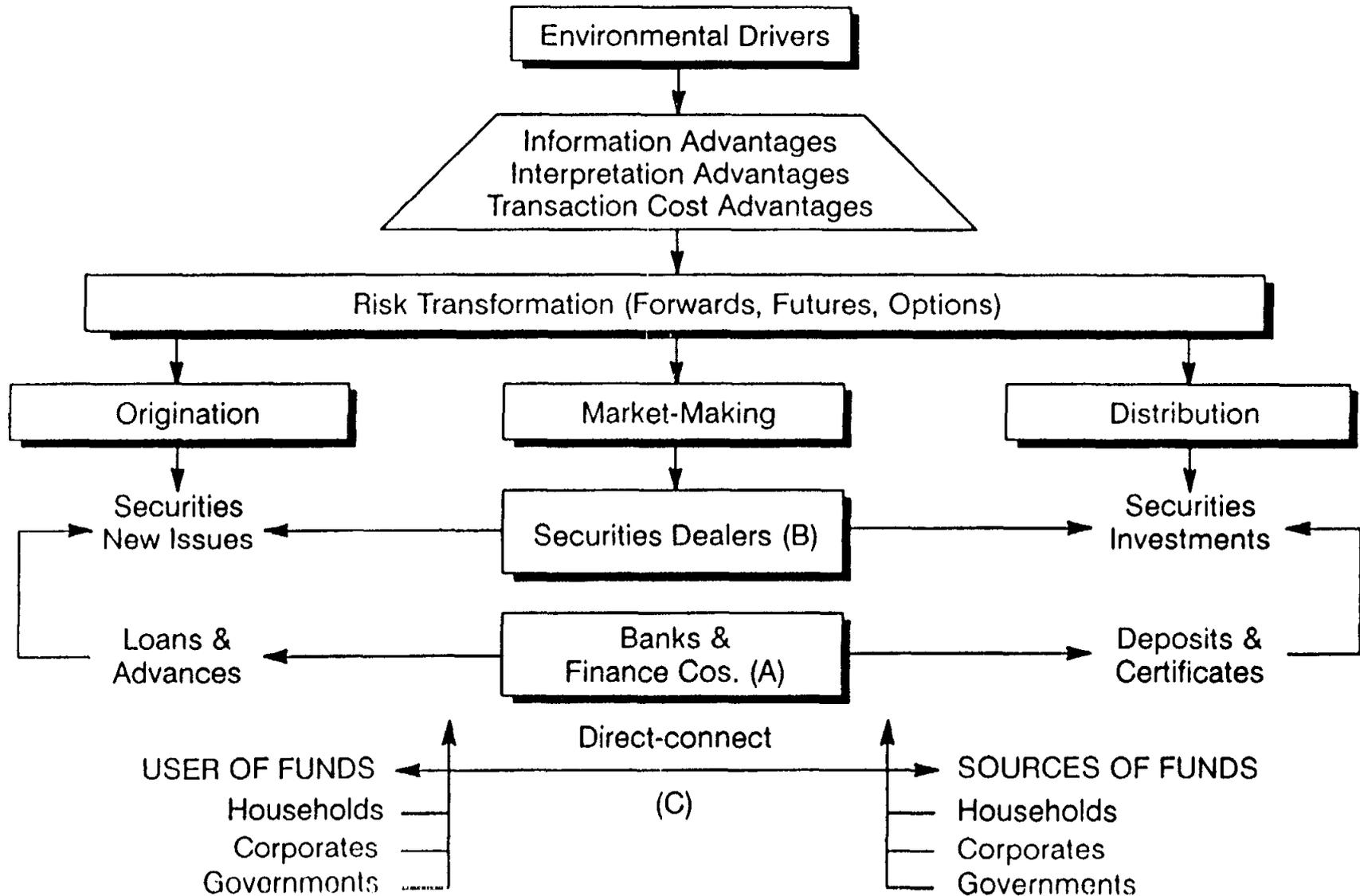
A convenient model that can be used to guide thinking on financial contracting and the role of financial institutions and markets is summarized in Figure 1. The diagram depicts the financial process (flow-of-funds) among the different sectors of the economy in terms of underlying environmental and regulatory determinants or drivers as well as the generic advantages needed to profit from the three primary intersectoral linkages:

- Savings/commercial banking and other traditional forms of intermediated finance.
- Investment banking and securitized intermediation.
- Various financial direct-connect mechanisms between borrowers and lenders.

Ultimate sources of surplus funds arise in the household sector (deferred consumption

FIGURE 1

Financial flows



or savings), the corporate sector (retained earnings or business savings) and the government sector (budgetary surpluses).

- Under the first or "classic" model of financial intermediation, savings (or funds-sources) are held in the form of deposits or alternative types of claims issued by commercial banks, savings organizations, insurance companies or other forms of financial institutions entitled to finance themselves by placing their liabilities directly with the general public. Financial institutions then use these funds flows (liabilities) to purchase domestic and international assets issued by non-financial institution agents such as firms and governments.
- Under the second model of funds flows, savings may be allocated *directly* to the purchase of securities publicly issued and sold by various governmental and private sector organizations in the domestic and international financial markets.
- Under the third alternative, savings surpluses may be allocated *directly* to borrowers through various forms of private placement and other direct-sale mechanisms.

Ultimate users of funds comprise the same three segments of the economy -- the household or consumer sector, the business sector and the government sector.

- Consumers may finance purchases by means of personal loans from banks or by loans secured by purchased assets (hire-purchase or installment loans). These may appear on the asset side of the balance sheets of credit institutions on a revolving basis, for the duration of the respective loan contracts, or they may be sold off into the financial market in the form of securities backed by consumer credit receivables.
- Corporations may borrow from banks in the form of unsecured or asset-backed straight or revolving credit facilities and/or may sell debt obligations (e.g., commercial paper, receivables financing, fixed-income securities of various types) or equities directly into the financial market.
- Governments may likewise borrow from credit institutions (sovereign borrowing) or issue securities directly.

With the exception of consumers, other borrowers such as corporations and governments also have the possibility of privately issuing and placing their obligations with institutional investors, thereby circumventing both credit institutions and the public debt and equity markets.

But even consumer debt can be repackaged as asset-backed securities and sold to privately investors, as we shall discuss below.

Alternative Modes of Financial Contracting

In the first mode of financial contracting (Mode A in Figure 1), depositors buy the "secondary" financial claims or liabilities issued by credit institutions, and benefit from liquidity, convenience, and safety through the ability of financial institutions to diversify risk and improve credit quality through professional asset management, and monitoring of their holdings of primary financial claims (debt and equity). Savers can choose among a set of standardized contracts and receive payments services and interest that may or may not be subject to varying degrees of government regulation.

In the second mode (Mode B), investors may select their own portfolios of financial assets directly from among the publicly issued debt and equity instruments on offer. This may provide a broader range of options than standardized bank contracts, and permit the larger investors to tailor portfolios more closely to their objectives while still achieving acceptable liquidity through rapid execution of trades -- aided by linkages with banks and other financial institutions that are part of the domestic payments mechanism. Small investors may choose to have their portfolios professionally managed, for a fee, through various types of mutual funds.

In the third mode (Mode C), investors buy large blocks of privately issued securities. In doing so, they often face a liquidity penalty -- due to the absence or limited availability of a liquid secondary market -- for which they are rewarded by a higher yield. On the other hand, directly-placed securities can be specifically "tailored" to more closely match issuer and investor requirements than can publicly-issued securities. Moreover, recent institutional and regulatory developments have added to the liquidity of some direct-placement markets.

Value to ultimate savers and investors, inherent in the financial processes described above, accrues in the form of a combination of yield, safety and liquidity. Value to ultimate users of funds accrues in the form of a combination of financing cost, transactions cost, flexibility and liquidity. This value can be enhanced through credit backstops, guarantees and derivative instruments such as forward rate agreements, caps, collars, futures and options. Furthermore, markets can be linked functionally and geographically, both domestically and internationally.

- **Functional** linkages permit bank receivables, for example, to be repackaged and sold to nonbank securities investors. Privately placed securities, once they have been seasoned, may be able to be sold in public markets.
- **Geographic** linkages make it possible for savers and issuers to gain incremental benefits in non-foreign and offshore markets, thereby enhancing liquidity and yield or reducing transaction costs.

If permitted by financial regulation, various kinds of financial firms emerge to perform one or more of the roles identified in Figure 1 -- commercial banks, savings banks, postal savings institutions, savings cooperatives, credit unions, securities firms (full-service firms and various kinds of specialists), mutual funds, insurance companies, finance companies, finance subsidiaries of industrial companies, and various others. Members of each *strategic group* compete with each other, as well as with members of other strategic groups. Assuming it is allowed to do so, each organization elects to operate in one or more of the three financial-process modes identified in Figure 1, according to its own competitive advantages -- i.e., its comparative efficiency in the relevant financial production mode compared to that of other firms.

Static and Dynamic Efficiency Aspects

Issues relating to the static and dynamic efficiency of the three alternative financial processes are summarized in Figure 2.

Static efficiency is modelled as the all-in, weighted average spread (differential) between rates of return provided to ultimate *savers* and the cost of funds to *users*. This "gap", or *spread*, depicts the overall cost of using a particular mode or type of financial process and is reflected in the monetary value of resources consumed in the course of financial intermediation. In particular, it reflects the direct costs of production (operating and administrative costs, cost of capital, etc.). It also reflects losses incurred in the financial process, as well as any monopoly profits earned and liquidity premia. Financial processes that are considered "statically inefficient" are usually characterized by high "spreads" due to high overhead costs, high losses, barriers to entry, and the like.

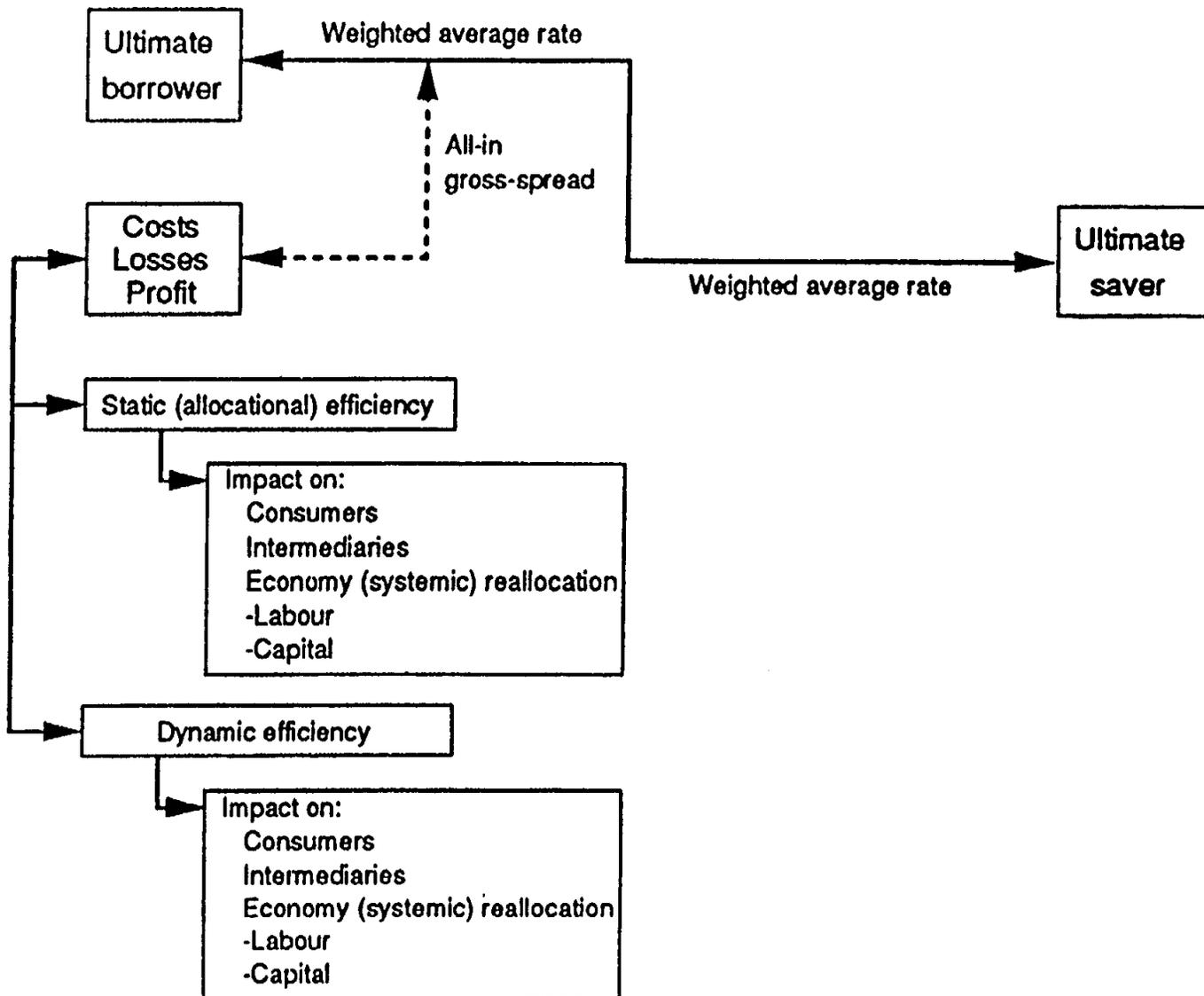
Dynamic efficiency is characterized by high rates of financial product and process innovation through time.

- *Product innovations* usually involve creation of new financial instruments (e.g., caps, futures, options, swaps) along with the ability to replicate certain instruments by bundling existing ones (synthetic securities) or to highlight a new financial attribute by re-bundling existing instruments. There are also new approaches to contract pricing, passive or index-based portfolio investment techniques that also fall under this rubric.
- *Process innovations* include contract design (e.g., cash settlement futures contracts), methods of clearance, settlement and trading, and techniques for efficient margin calculation.

However, there may be costs associated with financial innovation as well. Examples include financial instruments that take substantial resources to develop but ultimately fail to meet a need in the marketplace. Research during the 1980s shows a wide variety of derivative securities failures, such as a futures contract based on the retail price index.

FIGURE 2

Efficiency In Financial Intermediation



Successful product and process innovation broadens the menu of financial services available to ultimate issuers, ultimate savers, or other agents along the various financial channels described in Figure 1. Probably the most powerful catalyst affecting the competitive dynamics of the financial services industry has been technological change.

It is against a background of continuous innovation and pressure for dynamic efficiency that financial markets and institutions have evolved and converged. Global financial markets for foreign exchange, debt instruments and to a lesser extent equity have developed various degrees of "seamlessness." Indeed, it is arguable that the most advanced of the world's financial markets are approaching a theoretical, "complete" optimum where there are sufficient financial instruments and markets, and combinations thereof, to span the whole state-space of risk and return outcomes. Financial systems that are deemed *inefficient* or *incomplete* are characterized by a limited range of financial services and obsolescent financial processes.

Both static and dynamic efficiency are obviously important from the standpoint of national and global resource allocation, not only within the financial services industry itself but also as it effects *users* of financial services. That is, since financial services can be viewed as "inputs" to the overall real production process (along with labor and capital), the level of national output and income -- as well as its rate of economic growth -- are directly or indirectly affected by the static and dynamic efficiency attributes of the financial system. A "retarded" financial services sector can represent a major impediment to a nation's overall real economic performance as is evident, for example, in the persistent inability of the Eastern European countries to privatize companies expeditiously in the absence of a viable capital market.

In terms of Figure 2, such retardation represents a burden on the final consumers of financial services and potentially reduces the level of private and social welfare. It also represents a burden on producers, by raising their cost structures and eroding their competitive

performance in domestic and global markets. As such, inefficiencies distort the patterns of allocation of labor as well as capital. One major reason for progressive deregulation in many countries during the 1980s was an attempt to capture, for the countries involved, static and dynamic efficiency gains -- and at the same time to capture the value-added generated in the financial services industry itself.

Internationalizing the Model

The stylized model of financial intermediation presented here is cast implicitly in the context of domestic financial systems. The discussion can, however, easily be globalized:

- Sources of funds in national economies can be accessed by users of funds resident abroad. Examples include purchases of foreign securities by institutional investors, and by domestic households, either as individual securities or through collective investment vehicles such as mutual funds. International access to national savings pools is of particular importance in view of the wide differences that exist in savings rates among countries.
- Users of funds ranging from international organizations and government entities to corporations and even households (through asset-backed securities collateralized by consumer credit, mortgages, etc.) can access foreign sources of financing by borrowing or issuing securities outside the home country, either in foreign markets or in the offshore markets. International financings are particularly important in the light of large differences that exist in national levels of consumer, corporate and governmental borrowing requirements.
- Financial intermediaries connecting sources and users of funds operate internationally as well as domestically. Cross-border lending and foreign-currency funding are forms of international banking via the classic financial intermediation mode. Securities new issues undertaken abroad or offshore, or domestic issues incorporating international tranches, link issuers and investors across financial markets.

The role of derivatives and other hedging instruments -- and portfolio diversification for investors -- is substantially more important as well when the model is internationalized rather than in the purely domestic version, due to the existence of different national currencies, macroeconomic environments, and financial market conditions.

Structural Shifts in the Intermediation Process

As noted, unless prevented from doing so by regulation, the three alternative channels of financial funds flows identified in Figure 1 compete vigorously with each other for transactions volume in the financial intermediation process. The winners and losers among institutions competing in this process tend to be relatively consistent across national and international financial markets.

Taking the United States as an example of a large, integrated financial market (notwithstanding any geographic barriers or line-of-business constraints imposed on financial intermediaries by the regulatory authorities) the shifts that have taken place over almost half a century are presented in Table 1. It is evident that fully intermediated financial flows (Mode A in Figure 1) have dramatically given way to partially disintermediated flows via the securities markets (more closely fitting Mode B). Note the decline in the shares of traditional financial institutions such as commercial banks, thrifts, and insurance companies from 1946 to 1990, and the dramatic rise in shares of finance companies, pension funds and mutual funds that allow issuers and investors more direct access to primary securities markets.

Regarding the left-hand (borrower) structure of Figure 1, it is evident from Figure 3 that there has been very rapid growth in U.S. commercial paper (USCP) outstanding, as the closest substitute to bank credit lines. Comparable growth can be found in the share of domestic bond issues, most notably corporate obligations issued under medium-term note (MTN) programs. Regarding the right-hand (investor) structure of Figure 1, it is clear from Figure 4 that there has been a correspondingly rapid growth in money market mutual funds, the closest substitute to interest-bearing bank and savings institution deposits.

TABLE 1

**Share of Financial Assets of Selected U. S. Domestic Financial Institutions
(per cent)**

<u>Institutions</u>	<u>1946</u>	<u>1950</u>	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1990</u>
Commercial banks	57.3	51.2	38.3	38.6	36.7	31.2
S&L associations	4.4	5.8	11.9	12.9	15.4	10.2
Mutual savings banks	8.0	7.6	6.9	5.9	4.2	2.5
Credit unions	0.2	0.3	1.0	1.3	1.7	2.0
Life insurance companies	20.3	21.3	19.3	15.0	11.5	13.1
Private pension funds	1.5	2.4	6.4	8.3	11.6	10.9
State and local pension funds	1.2	1.7	3.3	4.5	4.9	7.4
Other insurance companies	3.0	4.0	4.4	3.7	4.3	5.0
Finance companies	2.1	3.2	4.6	4.8	5.0	5.3
Real estate investment trusts	0.0	0.0	0.0	0.3	0.1	0.1
Mutual funds	0.6	1.1	2.8	3.5	1.5	5.7
Money market mutual funds	0.0	0.0	0.0	0.0	1.9	4.6
Securities brokers & dealers	<u>1.5</u>	<u>1.4</u>	<u>1.1</u>	<u>1.2</u>	<u>1.1</u>	<u>2.0</u>
Total *	100.0	100.0	100.0	100.0	100.0	100.0
Total in (\$billions)	234	294	600	1342	4040	10,751

* Note: Columns may not add to exactly 100% because of rounding.

Source: Board of Governors of the Federal Reserve System, Flow of Funds Accounts, various editions.

FIGURE 3

US Commercial Paper Outstanding, 1980-1991

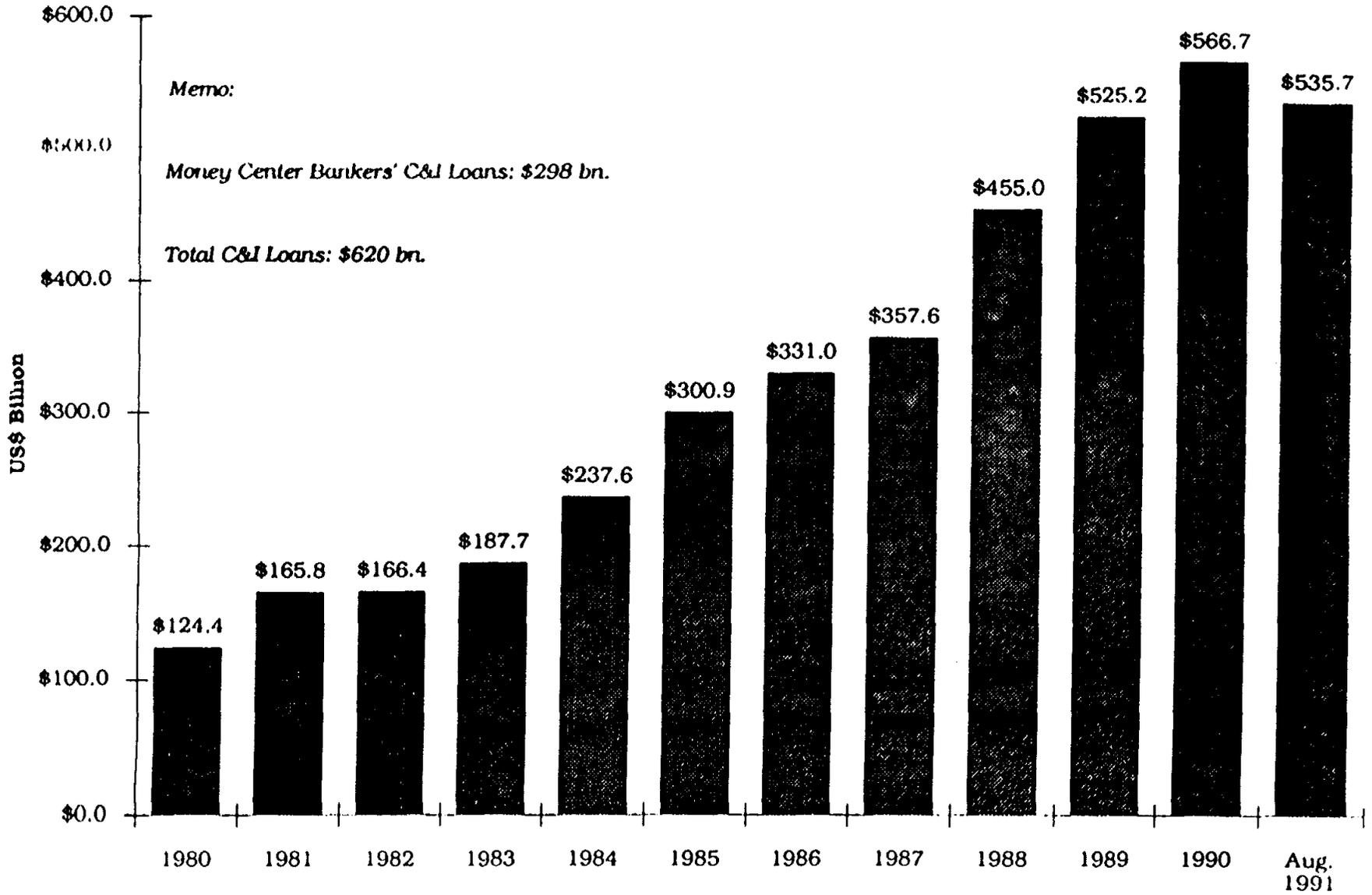
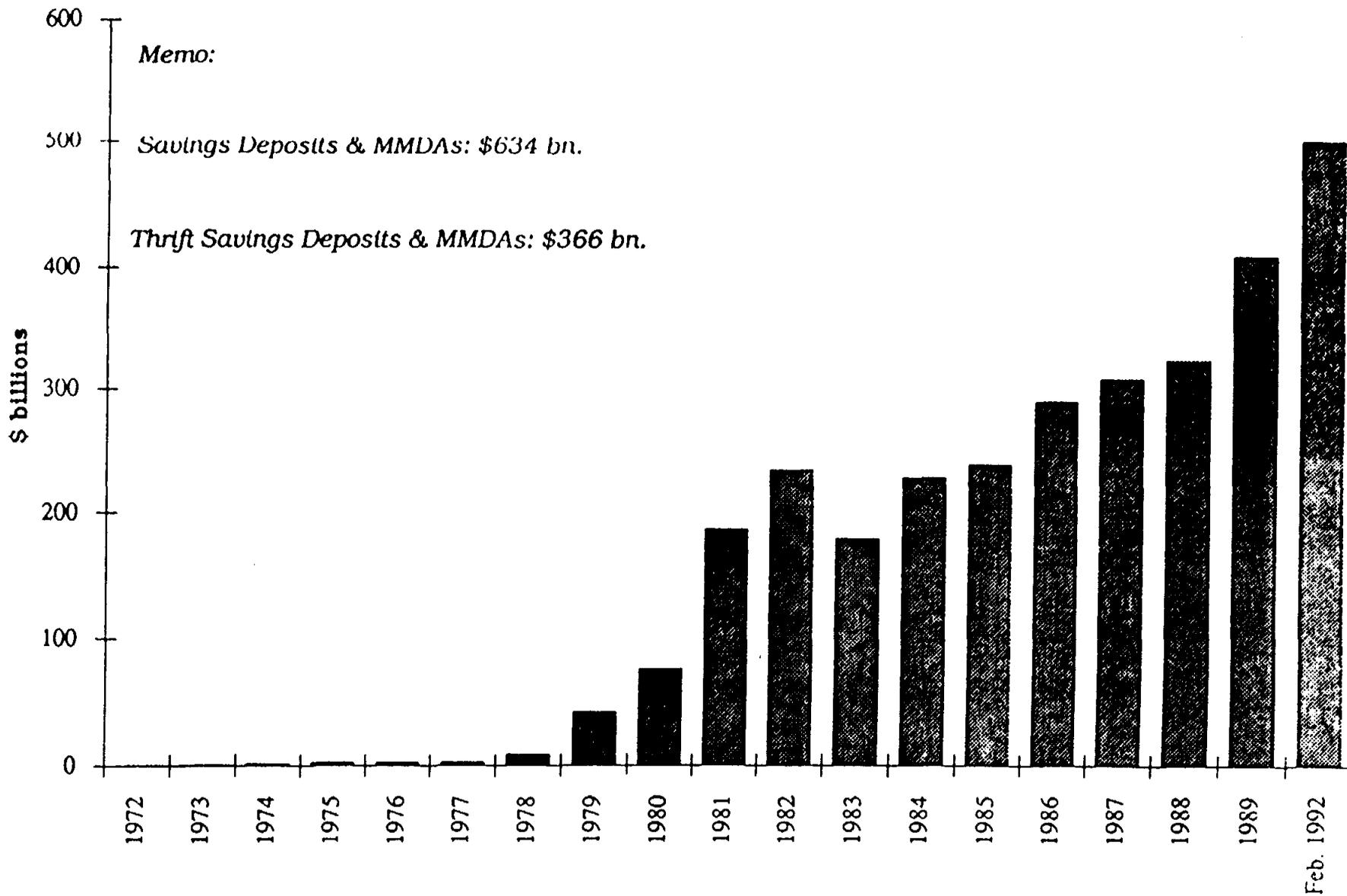


FIGURE 4

Assets of Money Market Mutual Funds, 1972-1992



The reason for this migration of financial flows from one process to another in the United States arguably has much to do with changes in the relative static and dynamic efficiency characteristics and costs (or spreads) of intermediation via traditional financial institutions, as against more direct securities market processes. As we have noted, these processes compete with each other on static and dynamic efficiency criteria, resulting in the significant long-term shifts in market shares evident in Table 1.

The other development promoting the shift from intermediated to disintermediated finance in the United States has been securitization -- the issuance of traded financial instruments against anticipated cash-flows of interest and principal from various kinds of receivables. Since the use of pass-through bonds involving government agencies as quasi-guarantors to securitize U.S. fixed rate mortgage loans in the early 1970s, the securitization technique has been successfully extended to a variety of other markets as well (see Table 2). As the transaction costs of using securitization technology have declined and the advantages to financial institutions have become more apparent -- e.g., increased asset portfolio liquidity and a superior ability to manage interest-rate risk exposures -- potentially all bank loans have become securitizable either through pass-throughs, collateralized mortgage obligations, asset-backed securities, or loan sales.

That the shift away from the traditional intermediation mode has not been confined to the United States is shown in Figure 5. This indicates the relative decline in household financial assets maintained in the form of bank deposits versus in securitized form for the United Kingdom, Japan and Germany during the decade of the 1980s. Invariably, the latter has gained in share against the former.

The trend toward securitization internationally is likely to grow as well, as governments

TABLE 2

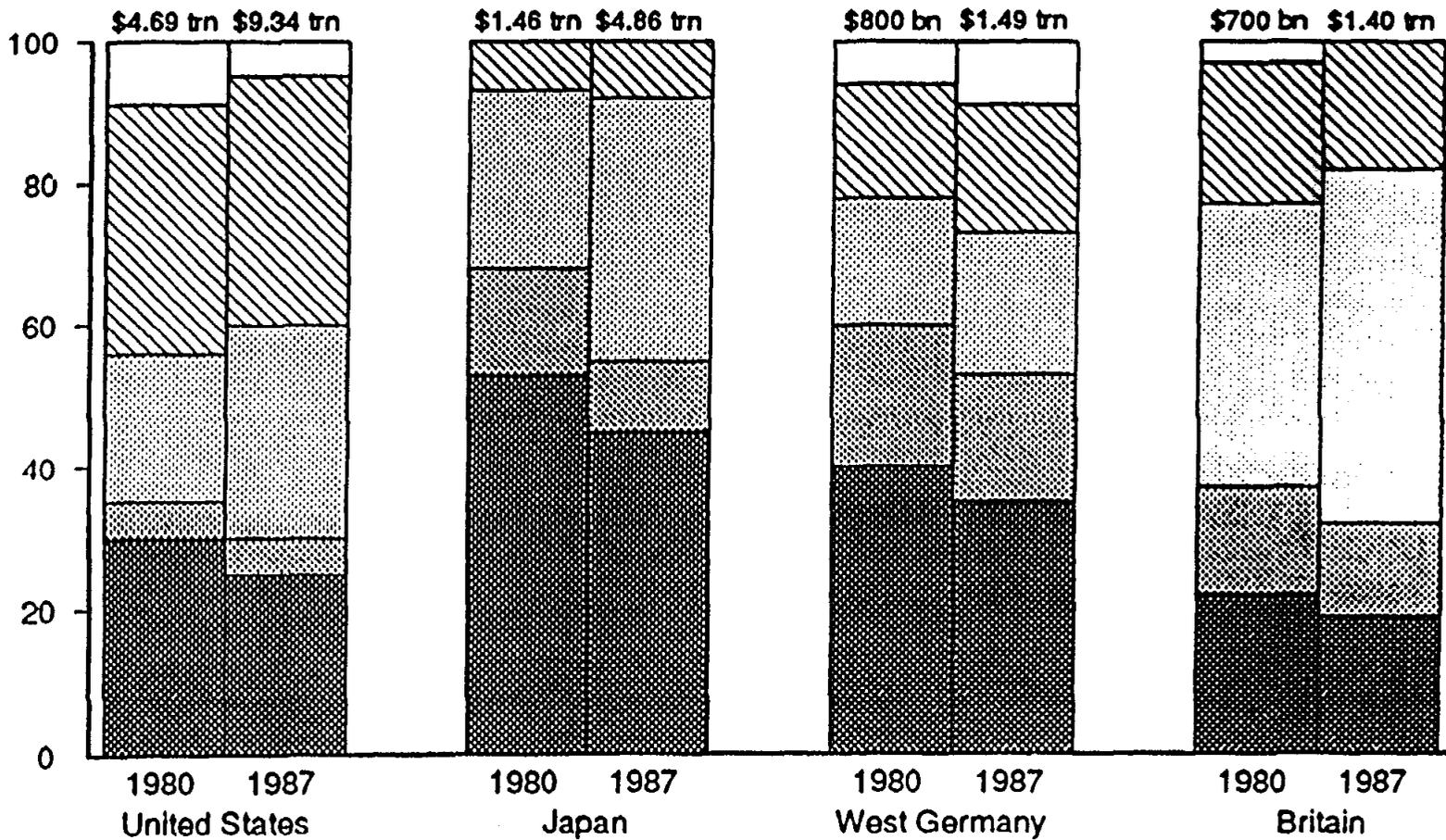
Securitized Asset Classes

1970:	Mortgages
1985:	Autos Boats Equipment Leases
1986:	RV s Light Trucks
1987:	Credit Cards Consumer Loans Trucks Trade Receivables
1988:	Affiliate Notes Insurance Policy Loans Hospital Receivables
1989:	Home Equity Loans Time Shares Junk Bonds
1990+:	Middle Market C & I Loans LDC Debt

FIGURE 5

Household Financial Assets

- Other
- ▨ Corp. & govern. securities
- ▩ Equity in pension & insurance
- ▤ Cash & demand deposits
- ▣ Savings deposits



in various countries change bank and securities regulations to allow securitization proceed, and as pressure mounts from financial services firms as well as non-financial firms for access to this technology. Thus, a major integrating factor in the international securities markets is likely to come from the direct recycling of bank loans through one of the many available securitization vehicles.

The next set of developments in some of the most innovative financial markets is likely to involve replacement of traditional banking and securities forms of financial intermediation by the pure direct-connect mechanisms identified by Mode C in Figure 1, including direct intercompany payments, increased private placements of securities, and the like -- i.e., direct financial links between sources and users of funds that have the potential of further cutting-out traditional financial intermediaries. Figure 6 shows the growth of the private placement market in the United States as an example of this trend toward direct linkages between issuer and investor depicted by Mode C of Figure 1.

The three intermediation modes in Figure 1 thus compete with one another in a modern financial system on the basis of static and dynamic efficiency, although they are often closely interrelated. For example, the provision of liquidity via Mode B is an important aspect of the viability of privately placed securities via Mode C. Similarly, credit backstops and guarantees by banks via Mode A represent an important aspects of various kinds of securities transactions conducted via Mode B.

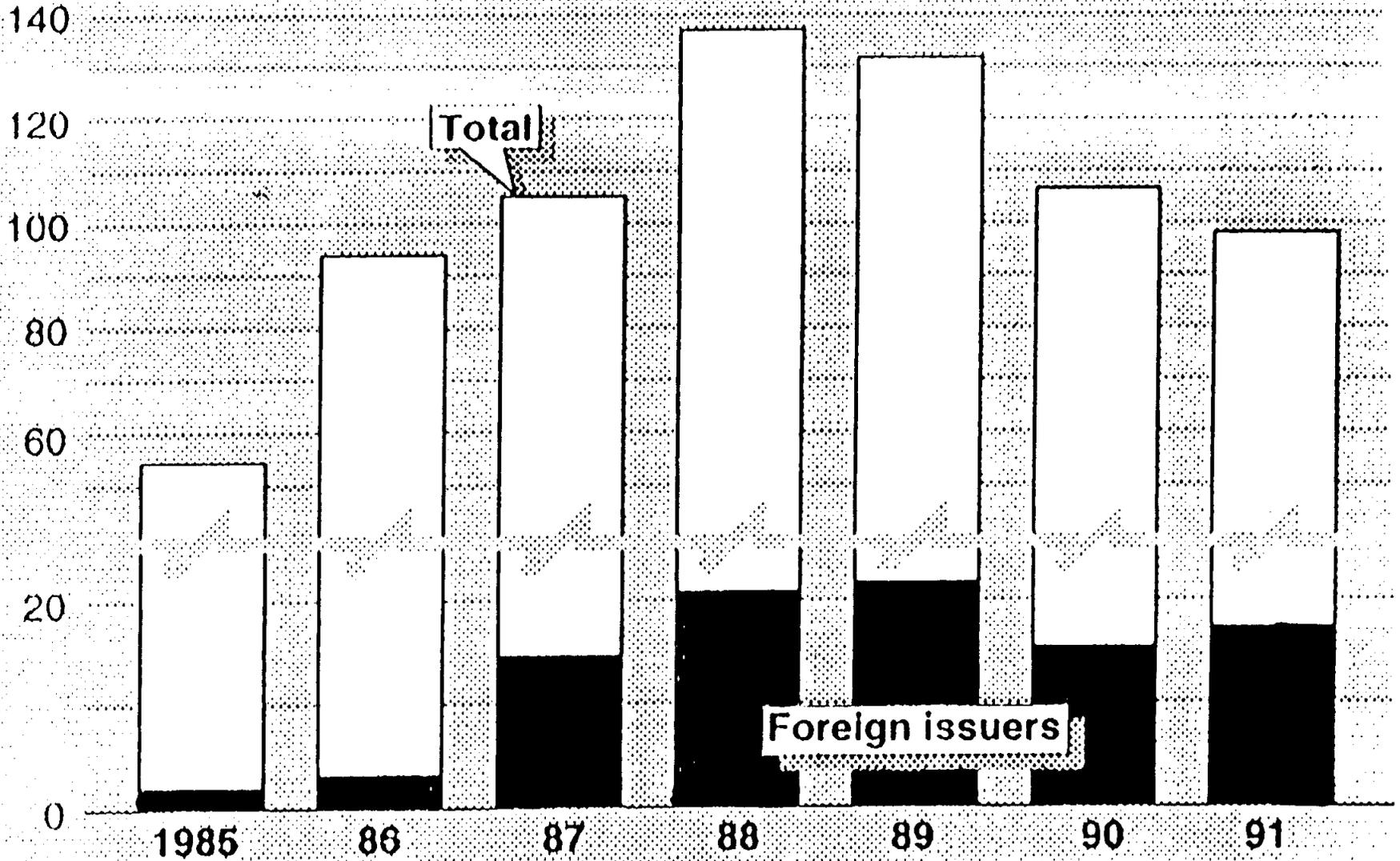
Financial Derivatives, Swaps and Synthetics

The volume of financial derivatives has grown rapidly in recent years in response to

FIGURE 6

US privately placed debt

\$ billion



Source: IDD Information Services

prevailing patterns of interest rate and exchange rate volatility, equity market developments, and the gains inherent in arbitraging investment and financing opportunities across currencies and fixed/floating debt pricing. Derivatives and the kinds of synthetic securities they make possible are at once linked to trading in the underlying cash securities and to a degree substitute for them as investment vehicles.

Table 3 indicates the notional principal amount of interest rate swaps outstanding at the end of 1990 to be \$2.3 trillion, a 50% increase over a year earlier, while currency swaps stood at about \$578 billion, a one-third increase over the previous year. According to the International Swap Dealers Association (ISDA) total swap volume grew at a compound annual rate of almost 50% from 1987 to 1990, and is estimated to grow at a rate of over 12% between 1990 and 1995. Notional principal outstanding is expected to exceed \$5 trillion in 1995, with \$2.2 trillion in swaps completed.

Volumes in interest rate caps, floors, collars and options to swap (swaptions) have also increased rapidly and represent insurance products have likewise grown significantly in recent years. In both futures and options, it is likely that trading volumes will continue to grow rapidly as hedging sophistication grows, and that a lively competition based on efficiency characteristics of market structures will prevail among the various exchanges as well as between them and over-the-counter (OTC) derivatives transactions.

A variety of derivatives contracts provide good substitutes for the underlying securities, involving lower transactions costs, and may affect the demand for underlying securities. They are regarded as a major area for growth on the part of institutional investor activity. This applies to exchange-traded futures for asset-allocation shifts between countries, foreign exchange forwards (used as "overlays" to the underlying investment portfolios), as well as some OTC options.

TABLE 3

Survey Period	Survey Responses	Percent Change	Total Interest Rate Swaps		Total Currency Swaps		U.S. Dollar Interest Rate Swaps		U.S. Dollar Currency Swaps	
			Total Notional Principal \$ Equiv. (Mills)	Percent Change	Total Notional Principal \$ Equiv. (Mills)/2	Percent Change	Principal (Mills)	Percent Change	Principal (Mills)/2	Percent Change
YE 87	49		\$682,888		\$182,807		\$541,517		\$81,303	
YE 88	57	16.3%	\$1,010,203	47.9%	\$316,821	73.3%	\$728,166	34.5%	\$134,739	65.7%
YE 89	64	12.3%	\$1,539,320	52.4%	\$434,849	37.3%	\$1,011,199	38.9%	\$177,083	31.4%
YE 90	63	-1.6%	\$2,311,544	50.2%	\$577,535	32.8%	\$1,272,653	25.9%	214,178	20.9%

Source: International Swap Dealers Association

Financial Market Infrastructure

Finally, the efficiency characteristics of the financial intermediation process is significantly affected by the "value-chain" of securities market services related especially to Mode B in Figure 1. These include (a) information-gathering and dissemination, (b) provision of analytics and research, (c) establishment and maintenance of efficient physical or electronic trading systems, (d) transactions clearance and settlement, and (e) post-trade custody and safekeeping, including credit-related aspects of the process.

Figure 7 lists these services, dividing them into three parts that follow one another in roughly chronological order. The first group includes pre-settlement services arising from information-gathering and dealing, with examples of major suppliers of these services. The second group summarizes settlement-type services, both domestic and international as currently provided, for example, by Euroclear and CEDEL. The third includes agency and other ancillary services closely related to the settlement and payments process.

Securities market infrastructure services perform a crucial function in a modern economy, and an efficient and resilient information, trading, settlement and custody system arguably increases the availability, and lowers the cost, of risk capital. This is accomplished by allowing investors a high degree of portfolio diversification and asset-reallocation opportunities as well as significant liquidity, which means that investors will be much more willing to invest in assets that, on their own, would seem risky and illiquid. An efficient system does so promptly at low cost, with a minimum of errors and a maximum degree of certainty that the transaction will be concluded on the precise terms agreed to in the trade. Because friction-free domestic securities transactions can remove major barriers to trading, the clearing and settlement infrastructure can play a key role in the evolution of both domestic and international financial markets.

Many of the benefits from efficient financial markets may be reaped by removing barriers

FIGURE 7

COMPETITORS SERVICES	EUROCLEAR AND CEDEL	INFORMATION NETWORKS	LOCAL EXCHANGES	TRADE CONFIRMATION SYSTEMS	GLOBAL CUSTODIANS
QUOTATION & INFORMATION		●	●		
TRADING		●	●		
TRADE CONFIRMATION	●	●	●	●	
SETTLEMENT	●		●		●
CUSTODY	●		●		●

to capital flows and financial services, allowing international capital markets for fixed income securities and equities to allocate capital more efficiently among issuers. Recognizing this, many countries are seeking to improve their financial market infrastructure services by aligning them progressively with international standards. In some cases, countries without the necessary economies of scale or resource-based comparative advantages in this area of economic activity may wish to "outsource" certain financial market infrastructure services rather than developing their own stand-alone systems.

Borrower and Investor Alternatives

In the modern financial environment of today, borrowers face a range of alternative for obtaining financing depicted in Figure 8. Obviously not all borrowers have access to all of the alternatives depicted here. But we have already noted that even retail borrowers and small or medium-size companies who are basically limited to bank borrowing can subsequently have their loans securitized and benefit from both access to a much broader pool of funding sources as well as conversion of illiquid bank loans into liquid securities forms. The gains from both activities will tend to be partially passed backward to the borrower.

Similarly, today's modern financial system provides a wide range of opportunities and services to investors (see Figure 9), which allow them to optimize their asset portfolios by taking advantage of the domestic and international portfolio diversification inherent across the range of financial instruments being offered, as well as improvements in the securities market infrastructure services discussed above. Again, even the retail investor can take advantage of these investment alternatives and process-technology improvements by taking advantage of the broad array of mutual funds, unit trusts and other collective investment vehicles being aggressively marketed to households -- in many cases using imaginative, high-technology non-

FIGURE 8

FINANCING ALTERNATIVES AVAILABLE TO MAJOR CORPORATIONS

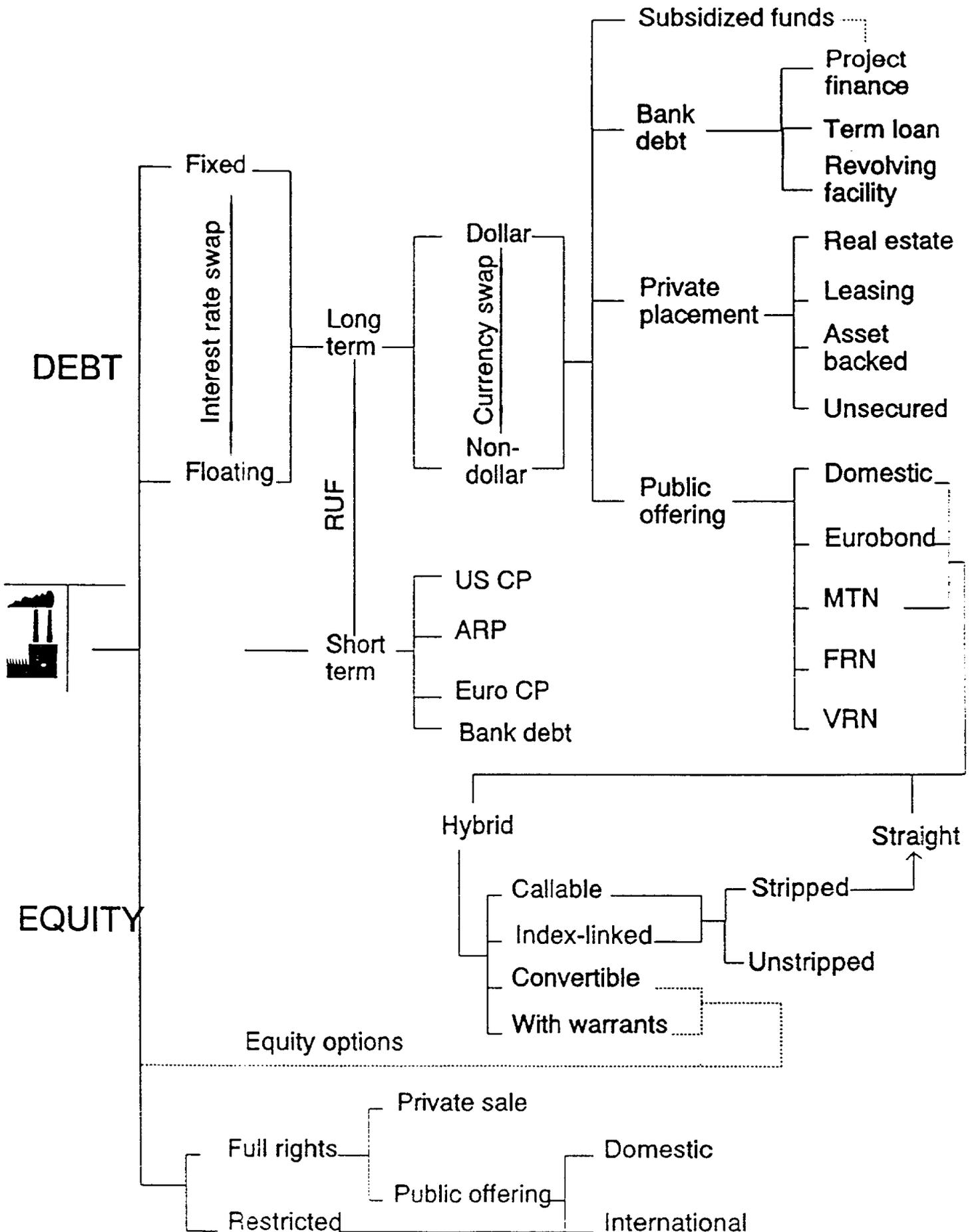
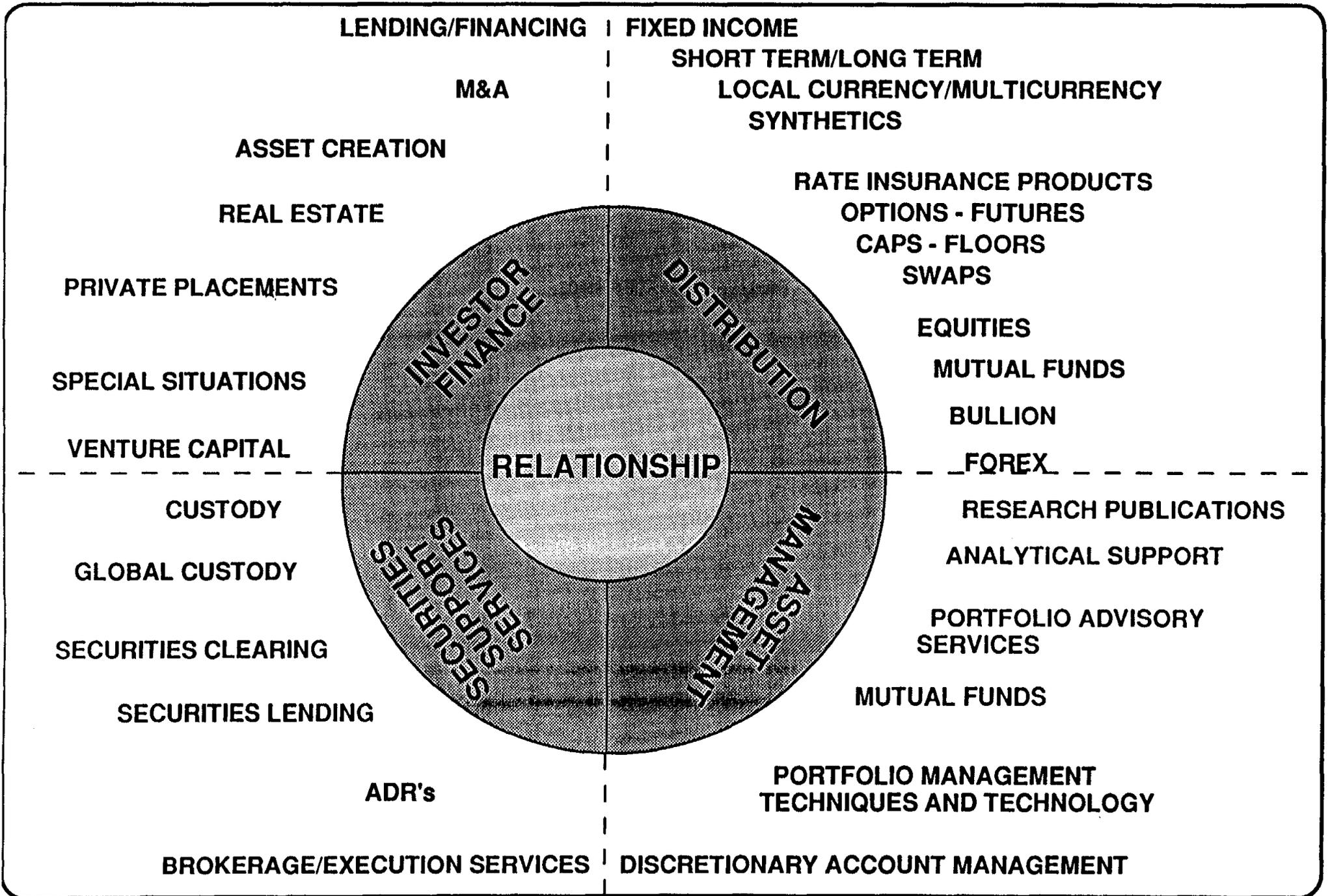


FIGURE 9



stationary distribution techniques.

Strategic Positioning of Financial Services Firms

A useful way to visualize the competitive opportunity-set that faces banks and other financial firms operating across the spectrum depicted in Figure 1 combines three principal dimensions in the delivery of financial services in terms of the clients served (C), the geographic arenas where business is done (A) and the products supplied (P) [See Walter, 1988]. Figure 10 depicts these dimensions in the form of a matrix of C x A x P cells.

Individual cells represent a more or less distinct "market" in which financial firms are already active or might become active. The characteristics of each potential market can be analyzed in terms of conventional competitive-structure criteria. The competitive structure of each C-A-P cell is an important determinant of the excess returns a financial institution may be able to obtain. To the extent competition takes place on the basis of price, prospective returns are transferred to clients. Competitive structure is conventionally measured using concentration ratios based on the number of vendors, distribution of market share among vendors, and similar criteria.

The inherent attractiveness of each cell clearly depends on the size of the prospective risk-adjusted returns that can be extracted from it. The durability of these returns will depend on the ability of new players to enter the cell, as well as the development of substitute products over time. Entry into a new market (associated either with a new product, client-group or arena), if initially successful, can be described in terms of a time-path of sub-normal, super-normal, and normal returns such as that depicted in Figure 11. This time-path is important with respect to the entry costs, exit costs, as well as size and durability of excess returns. Durability is described by the time-path (decay) of excess returns that can be extracted from the new market

FIGURE 10

THE COMPETITIVE OPPORTUNITY SET

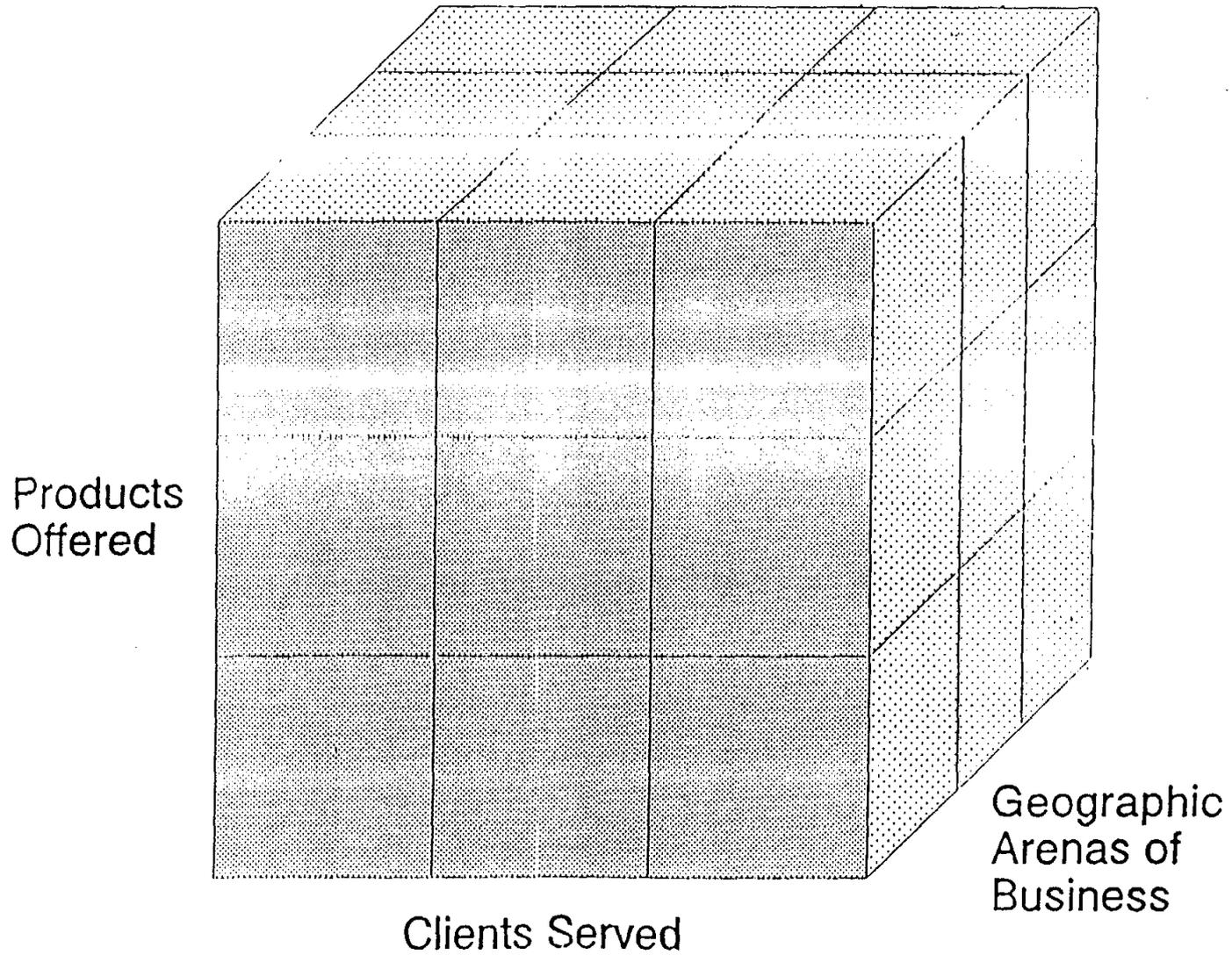
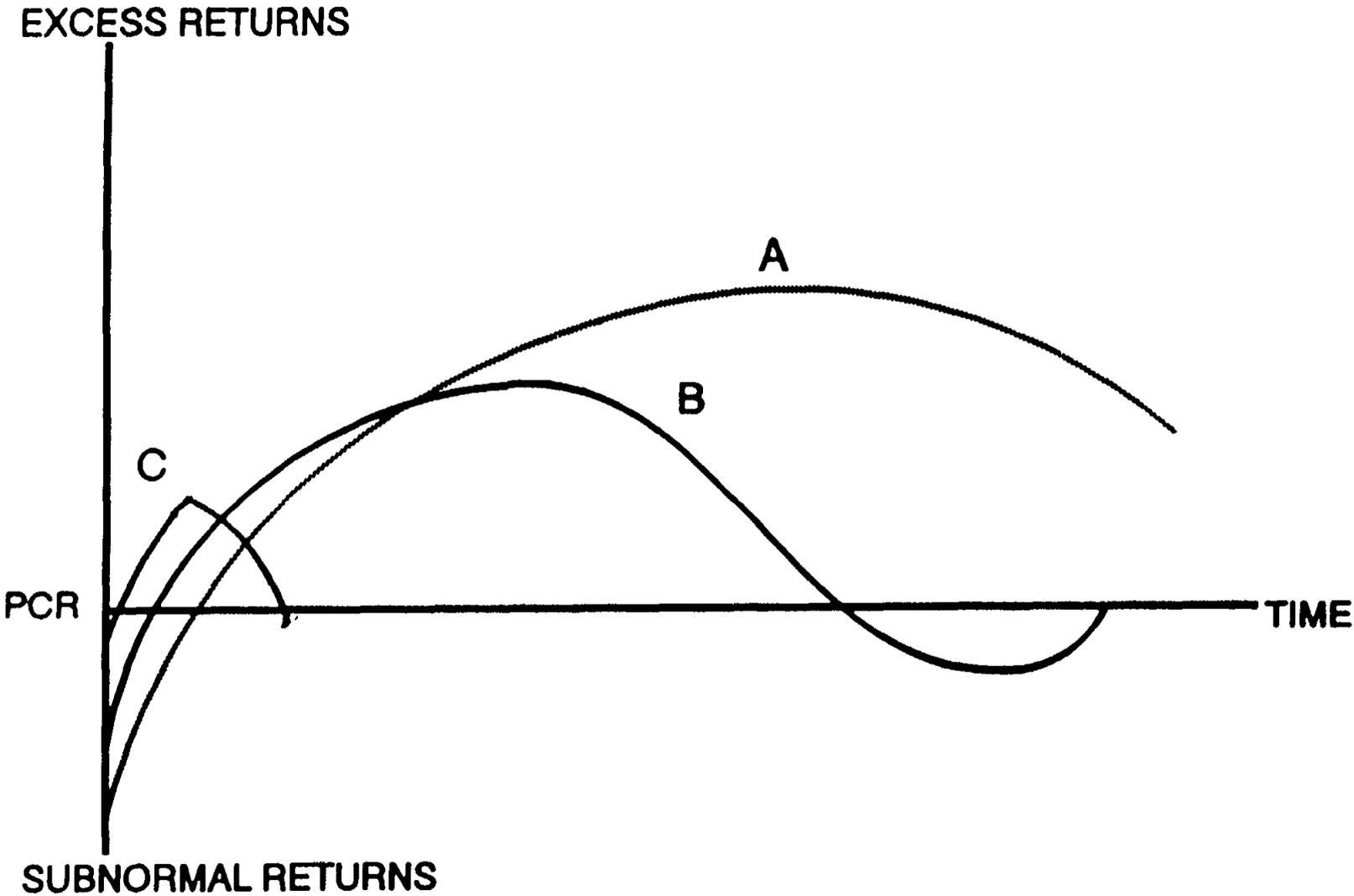


FIGURE 11



in this context, and their discounted net present value can be compared with those other market initiatives including transfers of financial innovations across clients, arenas or products. But beyond this, the economics of supplying financial services is jointly subject to economies of *scale* and economies of *scope*. The existence of both types of economies have strategic implications for supplying financial market infrastructure services.

Economies of scale suggest an emphasis on *deepening* the activities of individual firms within a cell, or across cells in the product-dimension. Economies of scope suggest an emphasis on *broadening* activities across cells -- that is, a player can produce a given level of output in a given cell more cheaply or market it more effectively than institutions that are less active across multiple cells. This depends importantly on the benefits and costs of linking cells together in a coherent web.

The gains from linkages among C-A-P cells depend on the possibility that a vendor competing in one cell can move into another cell and performing in that second cell more effectively than a competitor lacking a presence in the first cell. The existence of economies of scope and scale is a critical factor driving financial institutions' strategies. Where scale economies dominate, the drive will be to maximize throughput of the product within a given C-A-P cell configuration, driving for market penetration. Where scope economies dominate, the drive will be toward aggressive cell-proliferation.

There is an important risk dimension in the clustering of cells in the C-A-P matrix as well. In terms of Figure 10, transactions volumes in various financial services or geographic markets served may well be negatively covariant, so that a firm's transactions flow may be more stable with a broader range of activities.

Normally, the addition of vendors to a particular C-A-P cell would be expected to reduce market concentration, increase the degree of competition, and lead to an erosion of margins and

trigger a more rapid pace of financial innovation. If the new vendors are from the same basic strategic groups as existing players (e.g., one more clearing system joining a number of others competing in a given cell), then the expected outcome would be along conventional lines of intensified competition. But if the new player comes from a completely different strategic perspective (e.g., exchanges offering clearing services or information vendors offering transactions services), the competitive outcome may be quite different. Cell penetration by a player from a different strategic group may lead to a greater increase in competition than an incremental player from the same strategic group. This is because of potential diversification benefits, scope for cross-subsidization and staying-power, and incremental horizontal or vertical integration gains that the player from a "foreign" strategic group may be able to capture.

The higher the barriers to entry, the lower the threat of new entrants' reducing the level of returns available in each C-A-P cell. Natural barriers to entry include the need for capital investment, human resources, technology, and the importance of economies of scale. They also include the role of contracting costs avoided by a close relationship between the vendor and its client, which in turn is related to the avoidance of opportunistic behavior by either party.

Not least, the competitive structure of each cell depends on the degree of *potential* competition. This represents an application of the "contestable markets" concept, which suggests that the existence of potential entrants cause existing players to act *as if* those entrants were already active in the market. Consequently pricing margins, product quality and the degree of innovation in a given cell may exhibit characteristics of intense competition even though the degree of market concentration is in fact quite high.

In penetrating a particular cell or set of cells, it may be to the advantage of a particular player to "buy into" a potential market by cross-subsidizing financial services supplied in that cell from returns derived in other cells. This may make sense if the assessed horizontal, vertical

or lateral linkages -- either now or in the future -- are sufficiently attractive to justify such pricing. It may also make sense if the cell characteristics are expected to change in future periods, so that an unprofitable presence today is expected to lead to a profitable presence tomorrow. And it may make sense if a player's behavior in buying market-share has the potential to drive-out competitors and fundamentally alter the structure of the cell in his favor.

The latter can be termed predatory behavior, and is no different from predation in the markets for goods. The institution "dumps" (or threatens to dump) financial services into the cell, forcing out competitors either as a result of the direct effects of the dumping in the face of more limited staying-power or because of the indirect effects, working through expectations. Once competitors have been driven from the market, the institution takes advantage of the reduced degree of competition to widen margins and achieve excess returns. However, it is important to note that the predatory behavior is not consistent with the view of market-contestability. The greater contestability and the credibility of prospective market entry, the less will be the scope for price discrimination and predation.

Conversely, it may also be possible for an institution with significant market power to keep potential competitors out of attractive cells through explicit or implied threats of predatory behavior. It can make it clear to new entrants that it will respond very aggressively to incursions, and that they face a long and difficult road to profitability. In this way, new competitors may be discouraged and the cell characteristics kept more monopolistic than would otherwise be the case.

Clearly, regulatory issues have an important bearing in terms of accessibility of geographical cells in the matrix, as discussed below. Besides applying entry and operating restrictions to foreign-based players, regulators may tolerate a certain amount of anti-competitive, cartel-like behavior on the part of domestic institutions. Economies of scope and

scale may be significantly constrained by entry and operating restrictions in a particular market, indicating the importance of the impact of competitive distortions on horizontal integration. These will clearly affect the static and dynamic efficiency properties of the national financial system. Indeed, if they are considered sufficiently costly to users, they will turn to foreign or offshore financial systems where they face better conditions in the form of more cost-effective funding, improved portfolio performance or lower transactions costs.

Sources of Competitive Advantage

The ability of financial institutions to exploit opportunities within the C-A-P framework depicted in Figure 10 depends on a number of key firm-specific attributes. These include the adequacy of the institution's capital base and its institutional risk base, its access to human resources, its access to information and markets, its technology base and managerial culture, and the entrepreneurial qualities of its people.

Adequacy of the Capital Base. In recent years, financial institutions and their regulators have started to pay increasing attention to the issue of capital as a source of competitive power as well as prudential control [BIS, 1986]. This has always been true with respect to activities appearing on the balance sheet. But with increasing concentration of domestic and international finance in the securities markets, the role of capital has become important as the principal determinant of risk-bearing ability in securities underwriting and dealing, as well as in off-balance sheet activities. One step removed, a large capital base that allows an institution to be a successful player in securities underwriting and dealing also may enable it to undertake mergers and acquisitions activities, private placements and other value-added services for its clients.

Capital adequacy thus conveys a decided competitive advantage in bringing specific products

to specific international markets, in maximizing firepower and reducing costs in funding operations, in being able to stick with particular clients in good times and bad -- thus being considered a reliable financial partner -- and in achieving compliance with capital requirements mandated by the regulators.

The Institutional Risk Base. Financial institutions fund themselves by creating financial assets held by others. In a deregulated environment where financial institutions are forced to bid for funds, the perceived quality of an institution is an important determinant of its ability to fund itself at the lowest possible cost. The level of imbedded exposure to institutional risk has become particularly significant in the interbank market, and in the securities industry, leading to a substantial spread in funding costs between institutions and in erosions of funding availability from time to time, particularly in crisis situations. Institutions of lesser perceived quality can be caught in a difficult position in terms of liquidity or if they are forced to pay a premium over the other institutions in order to fund themselves. A high credit rating thus assures a financial institution substantial advantages on the funding side. This is also true in dealings with corporate and other institutional clients that are often highly sensitive to the perceived quality of suppliers of financial services.

Quality of Human Resources. While it has long been recognized that financial services are basically a "people business", it is only recently that the importance of having truly superior human resources has become apparent to all of the major players. Human capital can be viewed as a financial institution's most important asset, and many of the critical opportunities to exploit individual C-A-P cells, or clusters of them, are dependent directly upon the quality of human resources encompassed within the organization. Both credit and risk evaluation depend upon the intellectual caliber, experience and training of the decision maker -- qualities that are no less important in the securities business than they are in the more traditional dimensions of banking.

Due to the increase in the role transactions-driven financial services, individuals are increasingly having to make decisions of a highly complex nature very quickly or lose deals. The need for rapid and accurate decision making is particularly evident in the trading function, but are no less important in maintaining relationships with clients, specifically to anticipate client financial requirements and respond to them in ways that add value. Growing competition and increased complexity has placed a premium on human-resource based advantages, reflected in severe rivalry to attract top quality people in the labor markets of various financial centers, with compensation levels bid up at an extraordinary rate.

Information Advantages. The drive by financial institutions to move beyond commodity-type activities into higher value-added services is augmenting the importance of information-intensive products, both quantitatively and qualitatively. Indeed, *asymmetries* of information among various competitors and their clients contribute a great deal toward explaining differentials in competitive performance. Information is imbedded in specific financial services sold in various arenas to various clients, and all forms of lending and credit-related activities depend upon the collection, processing and evaluation of large amounts of information. Similarly, the assimilation of information about the needs of clients is critical in the development of services addressed to their needs. There are three special factors regarding information as a determinant of competitive performance.

First, information is the only resource that can be used simultaneously in the production of any number of services, and this gives it some unique characteristics. For example, information generated to build an international cash management system for a multinational corporate client can also be used to develop a long-term financial strategy for the same company, or perhaps to develop a slightly different international cash management system for another multinational firm.

Second, the half-life of information as a source of competitive advantage has been decreasing. Due to a great deal of financial market volatility, important types of financial information decay at a rapid rate, and actions that may have been warranted at one moment in time may no longer be appropriate shortly thereafter. It is an environment consisting of many small windows of opportunity.

Third, the growing complexity of the international financial environment and the wide variety of services offered has made it increasingly difficult for companies and individuals to plan in a straightforward manner. In effect, what clients often need is a means to evaluate the information that is available, and some way of distinguishing relevant information from irrelevant. Financial institutions can provide information-related services that help accomplish this, and they in turn are increasingly served by vendors of sophisticated research and analytics (e.g., Bloomberg).

Financial Technology and Innovation. Financial innovation depends heavily on information incorporated in value-added services sold to clients. The parts of the international financial services industry that have seen the most far-reaching structural changes are those which appear to be the most knowledge-intensive. Information technologies allow financial institutions to have at their disposal increasing amounts of data, and reduce the time necessary to transfer data across arenas, client segments and product applications. With information increasing at a rapid pace, internal decision- and filter-systems of financial institutions have come under pressure and new ones have had to be built, as have transaction-driven "back office" systems. Along with management and marketing know-how, these technologies are principally *process-related*.

There is an equally important set of *product-related* financial technologies, which to a significant degree are made possible by information- and transactions-oriented advances in financial processes. Technology-intensive financial services may be either embodied or

disembodied. The former incorporate technology in a financial transaction, and differentiate that transaction from others available in the market. Disembodied technology is provided to clients independent of a specific financial transaction (e.g., in the form of financial advice), although it may subsequently lead to transactions. Returns on financial technology may come through positioning (trading) profits, fees, or enhanced returns associated with financial product differentiation.

Whether process- or product-related, financial technology permits the innovating firm to open-up an "inter-temporal gap" between itself and its competitors, reflected either in the cost of delivering financial services or in product differentiation. That gap has both *size* and *durability* implications, and may also be more or less cell-specific within the C-A-P model. In general, there appears to be a strong positive relationship between innovation and client-specificity in the international financial services industry. There also seems to be a positive relationship between the complexity of the innovation and the imitation lag, perhaps partly offset by a negative relationship between product complexity and success of the innovation -- with some innovations being too complex to be put to effective use. In the absence of anything like patent or copyright protection, the imitation-lag for financial innovations tends to be relatively short. It is therefore important for an institution to maintain a continuous stream of innovations.

Innovation in this industry can thus be looked upon as the introduction of a new process or technique -- new in terms of a particular cell -- that provides durable returns and adds significant value to the client. The spread of an innovation through the matrix allows the firm to take advantage of its inherent profit potential across the cells.

Innovative capabilities -- the continuous application of new product and process technologies -- are very much a function of the quality of human capital and of investments in the financial equivalent of research and development (R&D), which is usually much more market-driven,

informal and inductive than industrial R&D. They are also highly sensitive to the "culture" of an organization, its management, the incentives associated with successful innovations versus the penalties of unsuccessful innovation, and the amount of horizontal communication and information-transfer that takes place within the organization. Financial institutions compete in the same capital and labor markets, and people move from one institution to another with growing frequency. Yet some institutions appear to be consistently more innovative than others.

Strategies and Performance of Financial Institutions

The C-A-P model discussed in this paper can be used in several ways:

- First, given adequate data availability it can be used to analyze the size and durability of excess returns associated with individual segments of domestic and international financial markets by applying conventional market-structure analysis. In the case of imperfect competition, it can be used to identify the importance of scale economies in the financial services industry.
- Second, it can help to understand the linkages that exist between different types of financial services and to identify the importance of economies of scope in this industry.
- Third, it can be used to explain industry internationalization both through the value coefficients imbedded in individual C-A-P cells and by superimposing on the basic structure economies of both scale and scope.
- Fourth, it can be used to identify appropriate public policies toward the financial services industry in a competitive structure-conduct-performance context.
- Finally, it can serve a normative function by identifying coherent firms strategies that combine correctly-identified market characteristics and firm-specific advantages.

In the latter context, a firm in the financial services industry faces a given C-A-P cell configuration and linkages at a point in time, alongside a particular institutional capability profile. Some of the cells have already been accessed, and some form a feasibility-set for possible further development. The firm's expansion path -- and the desired cell-configuration of

its business -- depends on the level of perceived risk-adjusted economic returns associated with the feasibility-set of cells, resistance lines impeding access to those cells, and the assessed value of inter-cell linkages. Successful players must therefore identify the specific sources of their competitive advantage; (b) those cells where this competitive advantage can be applied, adds value, and is sustainable; and (c) the competitive potential inherent in the cell-linkages. Application of a competitive-structure framework, such as the one presented here, will help identify the cells and cell-clusters where significant returns based on market power are likely to exist, and (equally important) where they are likely to be durable.

Given the potential size of the C-A-P matrix and the complexity of the linkages that exist among the individual cells, it becomes clear how wide the range of strategic options that faces a financial institution in the global environment. Consequently, it is not surprising that an examination of individual organizations' international structures and their development through time often appears somewhat haphazard, lacking in consistency or coherence. This is the result of management actions under conditions of *bounded rationality* when faced with the task of determining expansion paths. In effect, management confronts an enormous opportunity set, of which it is usually familiar only with a small part. Therefore it appears to operate much of the time by a process of trial and error -- trying various options under best available information, assessing results to the extent this is possible, and trying again. It is therefore not surprising that many institutions appear *ex post* to have a relatively ambiguous strategic positioning in the global market for financial services.

In order to perform well in working through the strategic process, institutions must first develop the ability to scan the environment and to identify potential changes in that environment, including strategic moves by competitors and changes in the regulatory setting. Moreover, some institutions will be able to react more quickly than others to changes in the

competitive environment and therefore may have a key advantage over their rivals.

In the pervasive economic restructuring that goes on in response to changing consumer and demand patterns, resource costs, international competition, perceived economies of scale and scope, individual industrial firms in search of maximum shareholder value constantly reassess the activity-span of their businesses. Vertical integration to secure sources of supply or downstream distribution may serve this purpose. Horizontal and geographic expansion to acquire market share, complementary product lines or risk-spreading may be attempted for the same reason.

When management appears to be on the wrong track, the financial markets provide appropriate signals leading to further restructuring or retrenchment. When the firm's objectives collide with the public interest in keeping markets functioning efficiently or in achieving non-economic objectives -- even at a cost to the economy -- regulatory constraints are imposed in the form of antitrust, environmental, employment, consumer protection or other types of legislation, along with appropriate enforcement measures. These involve a delicate balancing act to insure that the social benefits of regulation more than justify and social costs (which come in the form of less efficient use of resources and possibly slower growth). Within the bounds of such constraints, industrial restructuring and shifting forms of business organization in market-oriented economies is allowed to be driven mainly by the economic fundamentals.

Restructuring in the financial services sector is conceptually no different than restructuring in the industrial sector. Market forces may dictate vertical positioning somewhere on the spectrum from the ultimate consumer to the wholesale financial markets, or horizontal positioning ranging in breadth from the financial specialist to *Allfinanz* or *Bankassurance* -- the respective German and French terms for providing the full range of financial services under one roof. As in other industries, the functions to be performed and the underlying demand and

supply characteristics in a highly competitive market tend to dictate the sizes and forms of the organizations that compete in the marketplace. The penalties for having non-optimum organizational structures may be very severe indeed.

In a sense, the discussion presented here provides little more than a road-map for strategic diagnosis and positioning by financial firms. On a conceptual level, it lends itself to the application of modern industrial organization theory, game theory and information economics. Much more difficult is empirical research, since industry performance breakdowns, especially at the firm level, are not yet available that would make possible detailed analysis of performance across large segments of the C-A-P matrix. Perhaps they will never be, since confidentiality is a critical factor in an industry where proprietary know-how is a critical competitive weapon. But for specific markets and market-aggregates (such as M&A activity, securities new issues, secondary market trading and brokerage, deposit and lending market shares, etc.) such data are and will become available for meaningful analysis certainly at the firm level where the results of survey-based primary data can be generated. An example of this is given in Table 4, which shows the international competitive performance and market shares of the leading financial firms across a range of wholesale financial services.

Regulatory Determinants of Financial Structures

In the previous sections, we analyzed the economic factors likely to have an impact on the structure of financial intermediation activity in a particular domestic financial system and in the global financial markets as a whole. We also discussed the principal aspects of strategic positioning and performance of firms engaged in this activity.

The financial flows that are the basis of the preceding discussion are affected dramatically by regulatory factors. Financial services comprise an industry that has usually been, and will

INTERNATIONAL

WHOLESALE BANKING AND INVESTMENT BANKING, 1991

(\$ Billions)

	Intl Loans Arranged (f)	Intl Bonds Lead Managed (g)	Intl Equity Issues Lead Managed (h)	Intl MTNs Lead Managed (i)	Intl M&A Lead Advisor (j)	Total	Share of Top 20 (%)	Share of Market (%)
CS First Boston	25.4	23.0	1.9	16.7	31.9	98.9	10.31	6.89
Goldman Sachs	-	14.5	4.6	6.8	61.1	87.0	9.06	6.06
Citicorp	70.1	0.6	-	12.3	-	83.0	8.65	5.78
JP Morgan	47.2	7.6	-	-	17.5	72.3	7.54	5.04
Merrill Lynch	-	12.3	1.0	19.1	34.3	66.7	6.95	4.65
Chemical Bank *	63.9	-	-	-	-	63.9	6.66	4.45
Morgan Stanley	-	12.2	0.7	4.5	44.0	61.4	6.40	4.28
Barclays Bank Grp	32.9	3.0	0.4	-	6.8	43.1	4.49	3.00
SG Warburg	4.5	7.3	2.6	-	28.0	42.4	4.42	2.95
Salomon Bros	-	8.0	0.9	2.1	29.6	40.6	4.23	2.83
Shearson Lehman	-	2.0	1.1	2.8	31.9	37.8	3.94	2.63
Deutsche Bank	12.5	15.6	0.2	1.3	7.4	37.0	3.86	2.58
First of Chicago	32.7	-	-	-	-	32.7	3.41	2.28
UBS	19.0	12.2	-	-	-	31.2	3.25	2.17
Bank of America	28.7	-	-	-	-	28.8	2.99	2.00
Nomura Securities	-	25.9	0.5	0.7	-	27.1	2.82	1.89
Credit Lyonnais	20.6	6.8	0.1	-	-	27.5	2.87	1.92
SBC	14.8	12.1	-	-	-	26.9	2.80	1.87
Bankers Trust	21.1	2.1	-	2.5	-	25.7	2.68	1.79
Chase Manhattan	22.0	0.6	-	-	3.0	25.6	2.67	1.78
TOTAL TOP 20	415.4	165.8	14.0	68.8	295.5	959.5	100.00	67.00
INDUSTRY TOTALS	727.0	299.8	15.5	77.7	311.5	1431.5		
TOP 20 AS % OF TOTAL	57.1%	55.3%	90.3%	88.5%	94.9%	67.0%		

(f) IFR International Financing Review, 4 January 1992. Top lead managers loans and nifs, arrangers only

(g) IFR International Financing Review, 4 January 1992. Top 60 lead managers oly Eurobonds and international issues.

(h) IFR International Financing Review, 4 January 1992. Top 20 lead managers only international equity issues

(i) Investment Dealers Digest, 20 January 1992. top 15 agents. World-Wide MTMs full credit to lead agents only

(j) Mergers and Acquisitions Magazine, Securities Data Corp. (top 25) lead agents

(*) Chemical Bank plus Manufacturers Hanover totals

continue to be, subject to significant regulation due to its fiduciary nature and the possibility of external costs associated with institutional failure. Indeed, small changes in financial regulation can bring about truly massive changes in financial activity -- such as for example capital requirements associated with counterparty exposures in swaps and derivatives contracts.

When analyzing the effects of regulation on the level of activity in a nation's financial system, it is useful to think of regulation as imposing a set of "taxes" and "subsidies" on the operations of financial firms. On the one hand, the imposition of reserve requirements, interest/usury ceilings and certain forms of financial disclosure requirements, for example, can be viewed as imposing additional implicit "taxes," on a financial firm's activities in the sense that they increase its costs of financial intermediation. On the other hand, regulator-supplied deposit insurance and lender-of-last resort facilities serve to stabilize financial markets and reduce the risk of systemic failure, thereby lowering the costs of financial intermediation. They can therefore be viewed as implicit "subsidies."

The difference between these tax and subsidy elements of regulation can be viewed as the *net regulatory burden* (NRB) faced by a financial firm in any given jurisdiction. Private, profit-maximizing financial firms tend to migrate toward those financial centers where the NRB is lowest -- assuming all other economic factors are the same. Thus, at any point in time, NRB differences will induce firms to relocate as long as NRB savings exceed the transaction, communication, information and other economic costs of relocating. Since one can argue that, in today's global financial marketplace, transaction and other economic costs of relocating are likely to be small, one can expect financial market participants to be extremely sensitive to changes in current and perceived NRBs among competing financial centers.

To some extent, the regulators responsible for particular jurisdictions (nations, states, cities) appear to recognize this sensitivity and in their competition for employment and value-added

creation, taxes and other revenues have engaged in a form of competition over their levels of NRB, as discussed by Levich and Walter [1990].

It has been argued extensively that financial services firms are "special" -- either in view of their fiduciary responsibilities to clients or in terms of the macroeconomic role performed by banks at the core of the national and international payments and credit system. Firm or system-wide failure can impose costs on those insufficiently informed to make rational financial choices or on society at large as the credit and monetary base contracts. Alternatively or in addition, the degree of control that financial firms exercise over other parts of the economy may be deemed in a political context to be excessive.

Specialness can be considered in both a narrow and a broad sense. In the former, specialness is considered to bear only the deposit/credit and monetary policy dimensions, and therefore applies only to "commercial banks" under the U.S. or Japanese institutional definition, but not other types of financial services firms. However, to the extent that either of these dimensions bear on other types of financial services firms as well, or on sectors such as housing that are viewed as being socially desirable, other financial services firms such as S&Ls can also be considered "special." Moreover, Kane [1987] and others have argued that all financial services firms vulnerable to crises of confidence or failure-related negative externalities could be considered special, and therefore be subject to certain assistance and regulatory treatment on the part of government that need not apply to other types of firms such as industrial companies.

A variety of constraints ranging from capital adequacy standards to liquidity requirements and periodic compliance reviews are usually therefore set in place in order to mitigate concerns related to specialness. Each may involve economic costs, and may therefore erode the static or dynamic efficiency properties of the financial services industry. Whether the social gains in terms of improved firm and industry stability and fiduciary performance exceed these costs is

a complex and difficult matter for debate.

Moreover, since such improvements can only be measured in terms of events that *did not occur* and costs that were successfully *avoided*, the argumentation is invariably based on "what if" hypotheticals. There are no definitive answers with respect to optimum regulatory structures. There are only "better" and "worse" solutions as perceived by the electorate and their representatives. Consequently, collective risk-aversion and political reaction to past regulatory failures in the financial services sector can easily produce overregulation. This is also reflected in the reward system of bureaucrats charged with operating the regulatory structure, which causes them to be excessively risk-averse and prone to overregulation.

In addition to conventional forms of fiduciary and stability-oriented regulation, the financial services industry in some countries -- most notably in the United States and Japan -- has been subject to activity-limitations that constrain access to geographic markets, services or clients. All of these can be considered aspects of NRB. Using the C-A-P model in Figure 10 we can describe how competitive distortions affect the NRB associated with the individual cells in the matrix and, therefore, the formulation and execution of institutional strategies and competitive performance. This can be discussed in terms of entry barriers, operating restrictions that affect access to client groups, and operating restrictions affecting the ability to supply the market with specific products.

First, and most obvious, entry barriers, restrict the movement of financial services firms in the *arena* dimension of the matrix. A firm that is excluded from a particular national market faces a restricted lateral opportunity set that excludes the relevant tranche of *client* and *product* cells. To the extent it is the outcome of protectionist political activity, the entry barrier will itself create super-normal returns in some or all of the cells in the tranche. It may, of course, have this affect even if there is no protectionist intent. Foreign-based institutions already in the market

will, as noted earlier, tend to have a vested interest in keeping others out. Windows of opportunity, created by countries relaxing entry barriers, will be taken advantage of by institutions envisioning potential super-normal returns in some of the previously inaccessible cells.

Second, firms that are allowed into a particular market only through travel or representative offices may nevertheless be able to access particular *client/product* cells in that tranche, securing business and returns by transferring the actual transaction to a different *arena* – e.g., one of the Euromarket functional or booking centers or the institution's home country. This option applies primarily to the wholesale and private banking components of the *client* and *product* dimensions. Correspondent relationships with local banks are probably the only alternative for sharing in the returns associated with the blocked cells in *product* dimensions having to do with international trade, foreign exchange, syndications and other wholesale transactions.

The story becomes more complicated in the case of operating restrictions. The firm now has access, in one form or another, to the *arena* tranche, but is constrained either in the depth of service it can supply to a particular cell (e.g., lending limits, staffing limits, restrictions on physical location) or in the feasible set of cells within the tranche (e.g., limits on services foreign banks are allowed to supply and the client groups they are allowed to serve). These limits may severely reduce profitability associated with the *arena* concerned.

To the extent that horizontal integration is important in the international financial services industry, despite the presence of barriers and other competitive distortions affecting a given *arena* tranche, super-normal returns may still be obtained in unaffected cells. Even a limited scope for transactions with the local affiliate of a multinational enterprise may generate business with that company elsewhere in the world, for example. The value of a physical presence of any

sort in an otherwise restricted market may thus support competitive positioning elsewhere in the institution's international structure. Obviously, the value of these linkages is very difficult to assess.

An important regulatory-related division can be drawn in terms of Figure 3 and 10 between individual country financial systems built around a universal banking model, in which banks have great freedom to engage directly in non-bank financial services (Mode A and B in terms of Figure 1, both conducted under one roof), and separatist systems in which there is a regulatory division (or separation) between banking (Mode A) and other financial services -- such as investment banking (Mode B) and insurance. Figure 12 presents a typology of more or less "universal" multi-activity financial services firms incorporating a banking unit.

The universal banking model applied in Germany is quite different from Switzerland and the U.K., for example, in terms of bank shareholdings in non-financial firms (and vice-versa), the voting of fiduciary shares in companies held by the bank, membership on industrial company boards by bank officer. The emerging EC financial structure permits universal banking in terms of bank presence in commercial lending as well as securities business. The U.S. reflects more closely the separatist model, and the Japanese *keiretsu* system of industry-bank cross-holdings represents a still different approach.

Given the dramatically different characteristics of the Japanese, Anglo-American and German approaches to bank-industry linkages, it is unsurprising that there has been continuing debate about the degree to which these differences have been responsible for the economic performance of the respective national economies during different chapters of their economic histories.

The idea that the German-style *Hausbank*, bank shareholding and proxy voting systems and Japanese-style *keiretsu* linkages impart preemptive adjustment and stability to industrial firms

UNIVERSAL BANK ORGANIZATION STRUCTURES

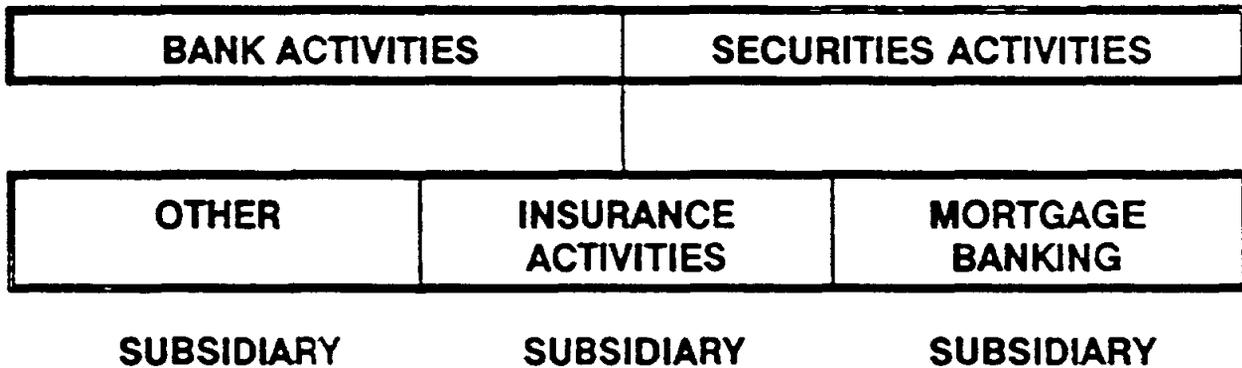
(a) FULL INTEGRATION

UNIVERSAL BANK



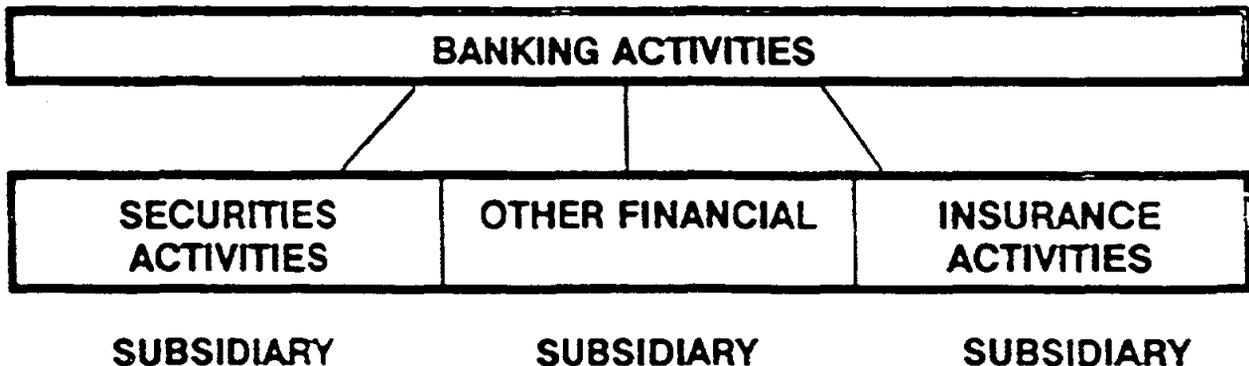
(b) GERMAN VARIANT

UNIVERSAL BANK



(c) U.K. VARIANT

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is predicated on the view that markets are short-sighted (dynamically inefficient) and that placing a significant degree of corporate governance in the domain of bankers will achieve greater social welfare over the long term. This view is supported to some degree by financial theoreticians who have argued that a strong benefit may arise in resolving information asymmetries when the bank is both an equity insider and a creditor.

Observers such as Cable [1985] Sheard [1989], Prowse [1990] and Kim [1990], have argued that the success of the German as well as Japanese economies is partly attributable to the direct equity links and "main-bank" relationships developed between banks and firms in those countries. Fama [1985] argues that, while lending makes a bank a privileged insider to the firm the control of ownership stakes makes the bank even more of an insider to the operations of the firm than if it remained just a privileged creditor. As a result, a bank can exercise greater control over the riskiness of projects chosen by the firm. He suggests that full insider status internalizes and perfects information flows from the firm to the bank, allowing the bank to make more efficient and timely financing decisions. That is, German or Japanese-style organizational structures in which banks hold both debt and equity stakes in client firms can be seen as creating an internal (but informal) capital market between bank and firm. In recent empirical work, Steinherr and Huvencers [1992] were unable to reject the hypothesis that universal banks better support the long-term financial strategies of the non-financial sector than financial systems based on capital markets.

Research on the Japanese version of close-knit bank-industry linkages suggests that firms with a main bank relationship are less likely to be liquidity-constrained [Hoshi, Kayshap and Sharfstein 1991(a)] and more likely to be able to survive periods of financial distress by continuing their investment programs [Hoshi, Kayshap and Sharfstein 1991(b)] -- although errors may be made if short-term financial distress is a signal of long-term inefficiency of the firm.

On the negative side is the problem of endemic conflicts of interest due to the breadth of the banks' involvement and the absence of internal controls. Especially in the German case, conflicts between the fiduciary responsibilities of a bank and its role as investment banker, between its interest in completing an M&A transaction where the target company is or has been a client, between the profitability of stuffing or churning portfolios and fiduciary responsibilities to investors, and between its interests as a lender and as an investor are only a few of a range of issues extensively explored in the literature [Walter, 1985; Gnehm and Thalmann, 1990]. Economists generally rely on adverse reputation-effects and on legal sanctions to check the incentives to exploit such conflicts [Krümmel, 1980], and some observers point out that larger customers will in any case turn away progressively from *Hausbank* relations if they are not as competitive as offerings from non-affiliated banks [Smith, 1993].

Beyond corporate control issues, Japanese *keiretsu*-type and German *Hausbank*-type linkages have clearly had an adverse impact on the development of each country's financial markets. An important reason for this is the dominant role of the universal bank in providing debt finance and other financial services to corporations -- see Steinherr [1990], for example. By contrast, separatist systems, in which non-bank financial services of commercial banks are constrained, appear to be associated with deeper and more developed corporate debt markets. Thus, the model adopted for a pan-EC financial system structure can have a critical bearing on the rate of development of corporate securities markets and the underlying innovation of financial instruments. One can hypothesize that, the more countries adopting the Germanic universal banking model, the slower the global growth in corporate securities markets is likely to be. [Walter 1992]

The fact that some form of universal banking dominates in the EC and in the many of the emerging markets of Asia, Latin America and Eastern Europe may suggest that Mode A in

Figure 1 will maintain a significant role in competing with Modes B and C in the global financial intermediation process. If that dominance is based on structural, microeconomic advantages, financial flows will clearly follow market dictates, and universal banking will begin to develop in the United States and elsewhere as well. If, instead, it is based on universal banks' maintenance of market position through regulation or monopoly power, then the disintermediation process will continue to develop, possibly in offshore markets or in more efficient national markets abroad.

Regulatory reform and rapid regulatory reform has gripped all of the major and second-tier financial centers of the OECD countries as well as many emerging markets, and has intensified competition among them. Beginning perhaps with the 1975 New York Stock Exchange introduction of negotiated securities commission rates on 1 May 1975, there followed liberalization of restrictive pricing, trading practices and market access rules in Britain's "Big Bang" (announced in 1983 and implemented in 1986), in Japan after the "Ad Hoc Agreement" (1982), in Canada after the "Little Bang" (1984), in Australia (1984), France (1988-89) and to a significantly lesser degree in the Netherlands, Germany, Switzerland and several other countries. Governments in one industrial country after another sought a better balance between the efficiency of the financial markets and the stability of the financial system, with almost all of the regulatory change favoring more efficient capital markets. Similar deregulation has occurred in emerging financial markets such as Mexico, often under general programs of market-oriented economic reforms. The reason for this progressive deregulation involves an attempt to capture for the countries involved static and dynamic efficiency gains and, at the same time, to capture the value-added generated in the financial services industry itself. None of the financial centers in any of these countries is readily prepared to see its significance on the global stage decline, and all are aware of the benefits of attracting a greater share of financial activity.

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