# THE GLOBALIZATION OF MARKETS AND FINANCIAL-CENTER COMPETITION

by

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# The Globalization of Markets and Financial-Center Competition

Ingo Walter

This paper begins by defining what is meant by "globalization" in finance, and by identifying the sources of value-added in the internationally-competitive financial services sector – origination, trading and distribution of debt and equity capital market instruments and their derivatives, foreign exchange trading and securities brokerage, management of market risk and credit risk, loan syndication and structured bank financings, corporate finance and advisory services, and asset management. These activities are considered in terms of a "value-chain" one that ultimately gives rise to the real economic gains attributable to financial-center operations. We present available evidence as to where the relevant value-added activities actually take place. We then examine the "centrifugal" and "centripetal" forces that determine the concentration or dispersal of value-added activity in financial intermediation, both interregionally and internationally. Next, we assess the factors which appear to underlie the locational pattern of international financial centers that has evolved. The paper concludes with the outlook for the future pattern of financial centers in the global competitive environment. Paper presented at a symposium "Challenges for Highly Developed Countries in the Global Economy" held in honor of Prof. Dr. Horst Siebert at the Institut für Weltwirtschaft, Kiel, Germany, March 20, 1998.

# Globalization of Markets and Financial-Center Competition

Ingo Walter[1]

Few developments in the world economy have been as dramatic or as far-reaching in their significance as the evolution of global financial markets in the latter part of the 20th Century. Driven by rapid change in technologies and the attendant reduction in information and transaction costs, it has led to far-reaching integration of financial markets, with broad implications for efficiency in global capital allocation as well as for international macroeconomic linkages and policy-formation. Much of this activity is carried out in a limited number of financial centers -- even though the ultimate sources of finance are overwhelmingly found in globally-dispersed private households, while ultimate users of finance are almost as broadly dispersed in corporate, government and individual borrowers and issuers around the world. These financial centers generate significant real economic gains for their respective national economies, gains that come in the form of improved income end employment, higher capital and labor productivity, and enhanced economic growth, as well as significant fiscal contributions. And financial services constitute a significant sector in international services trade. Partly for this reason, the dramatic evolution of global finance has given rise to equally dramatic competition among the world's financial centers in a vigorous search for competitive advantage.

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[1]Paper presented at a symposium "Challenges for Highly Developed Countries in the Global Economy" held in honor of Prof. Dr. Horst Siebert at the Institut für Weltwirtschaft, Kiel, Germany on March 20, 1998. Helpful comments by Larry Goldberg are gratefully acknowledged. Draft of March 10, 1998.

The following section of this paper defines what is meant by "globalization" in finance, and identifies the sources of value-added in the internationally-competitive financial services sector in terms of a "value-chain" one that ultimately gives rise to the real economic gains attributable to financial-center operations. The paper then presents available evidence as to where the relevant value-added activities actually take place, and examines the "centrifugal" and "centripetal" forces that determine the concentration or dispersal of value-added activity in financial intermediation, both interregionally and internationally. [2] It then assesses the factors which appear to underlie the locational pattern of international financial centers that has evolved, and concludes with the outlook for the future pattern of financial centers in the global competitive environment.

## What Does Financial Globalization Mean?

Globalization of finance encompasses a number of interrelated processes. These stretch across a spectrum between the principals in the generic financial intermediation process -- between *end-sources* and *end-users* of funds.

Banks fund themselves directly or indirectly with household, business or public-sector deposits that are deployed in the form of domestic and international credit portfolios (cross-border lending) that today shape globalized *intermediated* financial flows. Net savers have the alternative of purchasing insurance contracts and insurance-linked savings products, with the resulting claims and reserves deployed nationally and globally in

[2]We focus on financial services that are internationally mobile under current technological conditions, as distinct from mass-market retail financial services that are normally highly localized and dispersed. We recognize that technological change may well alter this definition in the years ahead.

securities portfolios, loans and direct participations, in line with the insurers' contractual obligations and actuarial reserve needs. Or net savers may purchase domestic or foreign securities, either directly or indirectly in the form of mutual funds, pension funds, trusts or other asset pools managed by fiduciaries. These are intended to optimize the balance of risk and return in line with investment objectives across asset classes whose total returns are not perfectly correlated in corporate, industry, currency, commodity or real-estate portfolios. The search for higher returns and international portfolio diversification (IPD) has long characterized asset-allocation strategies on the part of banks, insurance companies, and institutional investors, with various asset classes and associated derivatives making it possible to fine-tune portfolio profiles in conformity with specific lending and investment objectives.

At the other end of the financial spectrum, businesses may borrow from banks in the form of unsecured or asset-backed straight or revolving credit facilities, or they may sell their own equities or debt obligations (e.g., commercial paper, receivables financing, fixed-income securities of various types) directly into the financial market. Consumers may finance purchases by means of personal loans from banks or by loans secured by purchased assets (mortgages, hire-purchase or instalment loans). These will appear on the asset side of the balance sheets of credit institutions on a fixed or revolving basis for the duration of the respective loan contracts, or they may be syndicated or sold-off to other banks or into the financial market in the form of structured securities backed by various types of bank receivables. Governments or public-sector entities can likewise borrow from credit institutions (sovereign borrowing) or issue full faith and credit or revenue-backed

securities directly into the market.

In turn, financings and asset portfolios can be repackaged and structured using currency and interest rate swaps and other contacts to tailor the transactions to the needs of the borrowers and issuers on the one hand, and the lenders and investors on the other. The process easily crosses the boundaries of national financial systems so that, for example, a British corporation may be able to issue a local-currency security in Australia which, when purchased by local institutional investors and swapped into sterling, can provide lower all-in financing costs than local borrowing in the United Kingdom. Or an American homeowner may find his dollar-denominated mortgage financed in part by a Japanese family that has invested in a yen-denominated fixed-income mutual fund allocated in part to swapped U.S. asset-backed securities. Global markets for foreign exchange, debt and even equity have developed various degrees of "seamlessness" that have profoundly altered the modes and locations of world financial activity.

Globalization in financial market thus involves accessing the complete state-space of financial contracts, sources and users of finance worldwide in order to optimize the objective functions of financial end-users. In the process, significant value is added by financial intermediaries and markets -- value that tends to be highly transaction-specific. It encompasses provision of price-discovery and trading services in various types of organized or OTC markets.[3] It includes information utilities such as Bloomberg and Reuters, rating agencies such as Moody's and Standard & Poor's, portfolio diagnostic

[3]Over-the-counter (OTC) markets involve trading among counterparties that quote bid and offer prices in proprietary and/or client-driven transactions.

services such as Morningstar and Lipper Analytics, as well as securities and payments clearance and settlement services such as Euroclear and Swift. And it covers intermediaries' services in structuring of financial contracts, underwriting and distribution of securities, and corporate finance and M&A advisory work.

The value created in the intermediation process can be measured in the returns to the factors of production devoted to it both directly and indirectly – returns to labor, capital and land. The most successful financial centers generally employ large numbers of highly skilled, highly compensated individuals in the financial intermediation process itself and in related sectors such as legal, accounting, publishing, consulting, and information technologies. Returns to capital involve interest and profit earned by lenders and investors resident in the major financial centers. Returns to land involve actual and imputed rents on the real estate used in financial centers, whose value is closely linked to the pace of financial activity. Related to the earnings of factors of production directly and indirectly employed in financial intermediation activities are tax receipts of local and regional governments. The battle among financial centers is, among other things, a battle for economic gains in one of the fastest-growing service industries in the global economy.

Why do cities and countries struggle for position as financial centers? As noted, there is the *direct*, quantitative importance of the industry itself in terms of its contribution to economic activity, growth, employment, investment, the trade balance, tax revenues, and other economic performance benchmarks. Beyond this are *indirect* contributions that take into account vertical and horizontal linkages to sectors of the economy that are suppliers, users, and otherwise complementary to the financial services sector such as

travel and legal services, office equipment and the printing industry. Assessment of its overall contribution depends on the relevant input-output relationships—that is, how much each industry buys from (and sells to) every other industry in the national economy, and how much such activity would be lost if financial services were to migrate elsewhere.[4]

## What Financial Services Are We Talking About?

It is useful to catalog the specific kinds of financial intermediation services that make up the bulk of the activities in functional financial centers, from which the direct and indirect real-sector value-added derives. Each has its own mobility characteristics and locational dynamics.

### International Lending and Interbank Dealing

Loan syndication comprises the bulk of global wholesale lending activities carried out in financial centers, other than conventional trade finance. This involves the structuring of loans, backstops and credit enhancements, project financings and other commercial banking facilities in conjunction with clients, and then selling-down participations to other banks. Selldowns may be quite limited (club deals) or involve a very large number of banks in fully-syndicated transactions. Deals are put together by lead-managers who earn origination fees, and jointly with other major syndicating banks earn underwriting fees for fully committed facilities. These fees usually differ according to the complexity of the transaction and the credit quality of the borrower, and there are additional commitment,

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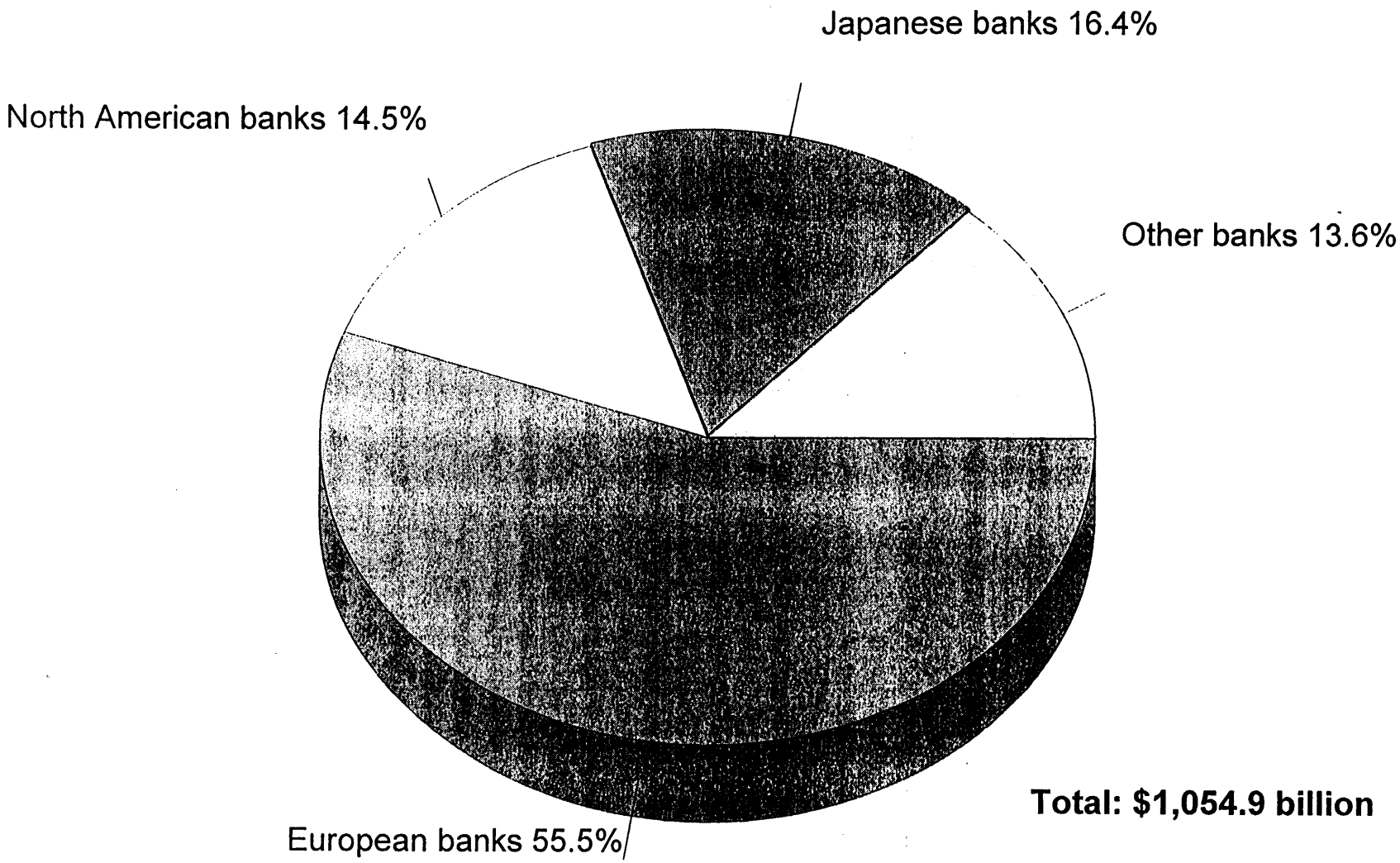
[4]The early literature on this subject includes H.C. Reed, *The Preeminence of International Financial Centers*, (New York, Praeger, 1981).

# Exhibit 1
## Distribution of International Bank Lending by Nationality of Reporting Banks

Mid-1997




Source:: Bank for International Settlements, "The Maturity, Sectoral and Nationality Distribution of International Bank Lending," Basle, January 1998.

legal and agency fees involved as well. In some cases, loan participations are sold widely to other banks in loan-sales programs, and more recently loans have been packaged through special-purpose vehicles into securities that are sold to a broad range of institutional investors. Wholesale loans tend to be funded in the interbank market, either in domestic or Eurocurrencies, through bank treasury operations' dealing desks that tend to be located in the major financial centers.

While little information is available on value-added in international wholesale lending, it is clear that volume increased rapidly in the 1990s, from $403 billion in 1992 to over $1 trillion in 1995 and $1.3 trillion in 1997.[5] The nationality of the lending banks is presented in Exhibit 1, which shows a comparatively modest market share on the part of U.S., Canadian and Japanese banks and a very large share on the part of European banks--as of mid-1997, 55.5% of all cross-border lending was booked by European banks, 14.5% by North American Banks, 16.4% by Japanese banks, and 13.6% by banks based in other countries.[6] However, the actual value-added and booking of syndicated lending transactions is predominantly undertaken in London, with additional centers in New York, Hong Kong and Singapore.

Foreign exchange operations are generally undertaken in a broker-dealer market structure dominated by the commercial banks, which cover both interbank and client-driven spot trades as well as foreign exchange and interest rate swaps and forward contracts.

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[5]Data: *Euromoney Loanware*, 1998. See also Exhibit 4 with respect to the rise in the volume of syndicated bank lending in recent years.

[6]Bank for International Settlements, *The Maturity, Sectoral and Nationality Distribution of International Bank Lending* (Basel: BIS, January 1998).

This trading activity likewise tends to be relatively concentrated geographically, and is strongly influenced by time-zone considerations–as is true of interbank funding operations. Whether it must be concentrated in the heart of a major financial center, however, is open to debate.

Foreign exchange trading has expanded at a rapid pace during the 1908s and 1990s in comparison with global trade in goods and services, as Exhibit 2 indicates. According to the most recent (1995) survey of the Bank for International Settlements, London's foreign exchange volume is far ahead of competing financial centers, with almost twice the volume of New York and three times the volume of Tokyo, a market share that has grown over the years. Tokyo has suffered a significant market share loss against Singapore and Hong Kong in the Asia time-zone.

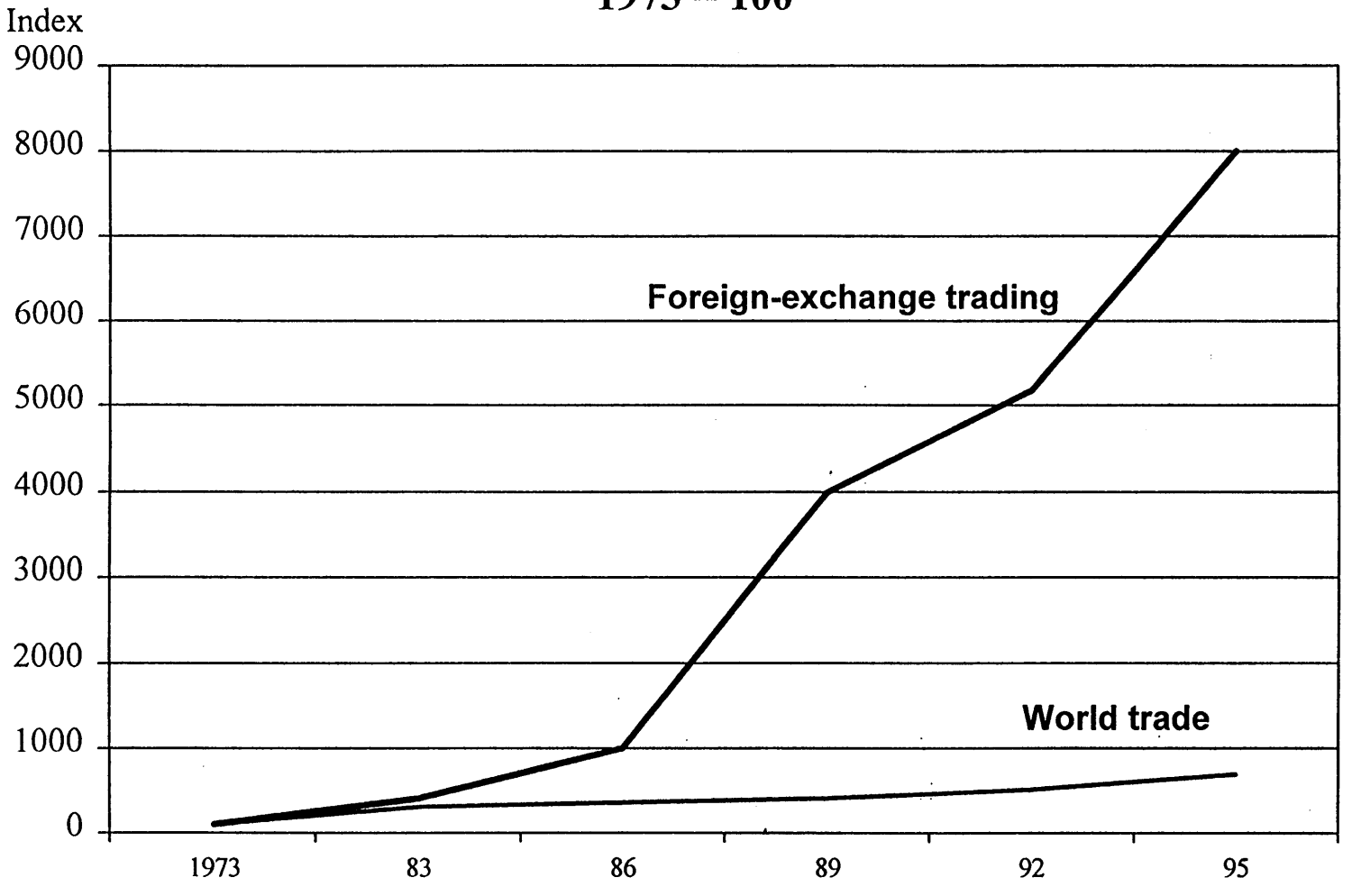
**Capital Market Access, Trading and Research**

Underwriting new issues of debt and equity securities -- both seasoned and initial public offerings -- for a range of clients including private-sector corporations, government-owned or government-controlled entities, sovereign governments and multilateral agencies is a major area of activity of securities firms or securities departments of universal banks. The underwriting function involves purchasing the securities from the issuer and on-selling them either in public markets or to large institutional investors in the form of private placements, in the process incurring exposure to underwriting risk (market risk and event risk) and typically earning a "spread" between the buying and selling prices. In terms of the various instruments originated:

Exhibit 2A

**Foreign Exchange Trading Volume, 1973-95 (dollar terms)**

**1973 = 100**

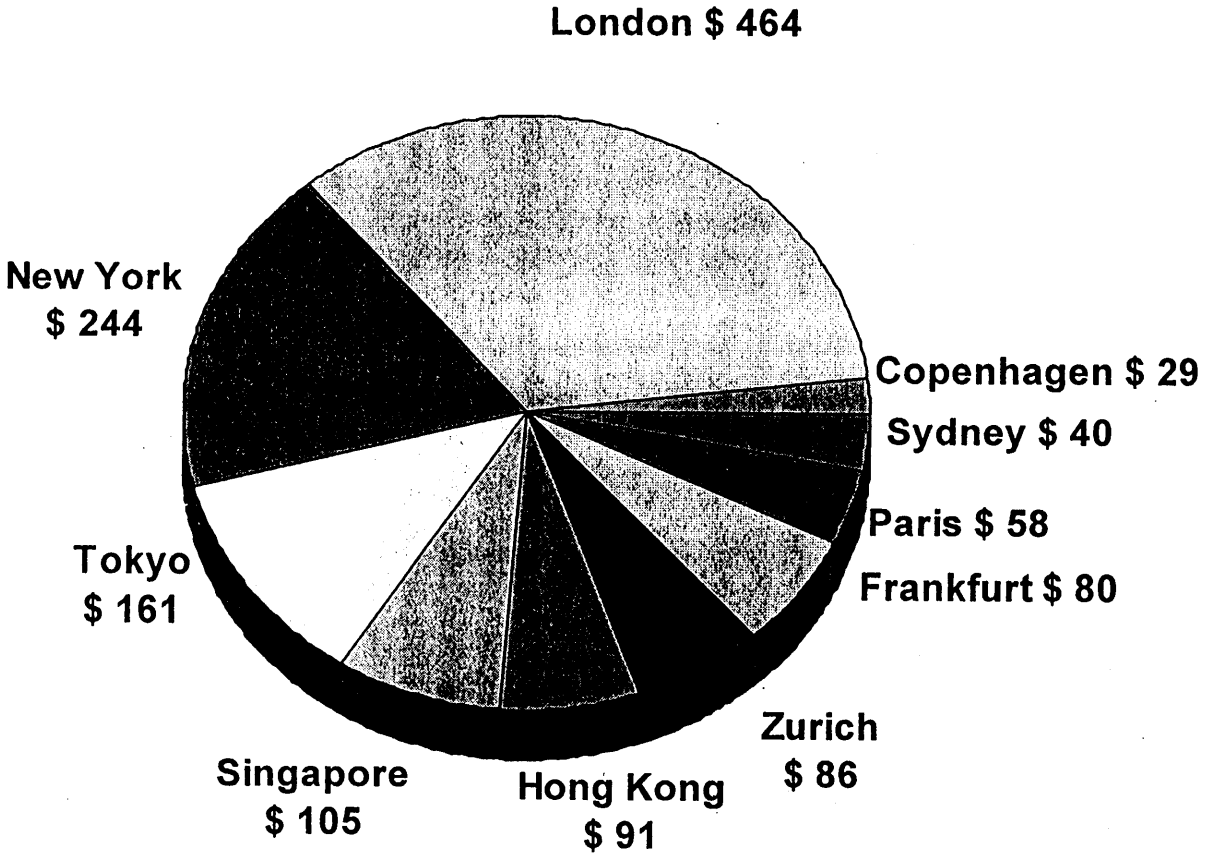



Source: BIS; WTO

Exhibit 2B

# Top TenFinancial Centers for Foreign Exchange, 1995

(estimated in billions of U.S. dollars)




Data : Bank for International Settlements survey of 26 central banks published on Sept. 19, 1995.

- *Bond (fixed-income) underwriting* is usually carried out through domestic and international underwriting syndicates of securities firms with access to local investors, investors in various foreign markets such as Switzerland (foreign bonds), and investors in offshore markets (Eurobonds) using one of several alternative distribution techniques. Placements may also be restricted to selected institutional investors (private placements) rather than the general public. Access to various foreign markets is facilitated by means of interest-rate and currency swaps (swap-driven issues). Some widely-distributed multi-market issues have become known as "global issues." In some markets, intense competition and deregulation have narrowed spreads to the point that the number of firms in underwriting syndicates has declined over time, and in some cases a single participating firm handles an entire issue -- the so-called "bought deal."

- *Commercial paper and medium-term note (MTN) programs* maintained by corporations, under which they can issue short-term and medium-term debt instruments on their own credit standing and more or less uniform legal documentation, have become good substitutes for bank credits. Financial institutions provide services in designing these programs, obtaining agency ratings, and dealing the securities into the market when issued. In recent years, MTN programs have become one of the most efficient ways for borrowers to tap the capital market.

- *Equity underwriting* is usually heavily concentrated in the home country of the issuing firm, which is normally where the investor-base and the secondary-market trading and liquidity is usually to be found. New issues of stock may be offered to investors for the first time (initial public offerings, or IPOs), to the general public on a repeat basis (seasoned issues), to existing holders of shares (rights issues) or only to selected institutional investors (private placements).

- *Secondary market trading* in cash instruments such as stocks, bonds, asset-backed securities, foreign exchange, and sometimes commodities such as cereal grains, pork bellies and metals -- as well as derivatives on individual securities or commodities (mainly futures and options) or on indexes. Activities include customer trading (executing client orders), proprietary trading (for the firm's own account) and *market-making* (being prepared to quote both bid and offer prices), and arbitrage -- buying and selling simultaneously in at least two markets to capitalize on price discrepancies between different markets for underlying financial instruments or derivatives, or between cash and derivatives markets (e.g., "program trading," computer-driven arbitrage between the futures and cash markets). There is also engage in "risk arbitrage," usually involving speculative purchases of stock on the basis of public information relating to mergers and acquisitions.

- *Brokerage*, involving executing buy or sell orders for customers without actually

taking possession of the security or derivative contract, sometimes including complex instructions based on various contingencies in the market.

- *Research*, into factors affecting the various markets as well as individual securities and derivatives. Securities research is made available to clients by more or less presumably independent analysts within the firm, whose opinion can be taken seriously. Analysts' careers depend on the quality of their insights, usually focused on specific industries or sectors. The value of research provided to clients depends critically on its quality and timeliness, and is often compensated by business channeled though the firm, such as brokerage commissions and underwriting mandates. Closely allied are research activities -- often highly technical modeling exercises -- involving innovative financial instruments which link market developments to value-added for issuer-clients and/or investor-clients.

- *Hedging and risk management* mainly involves the use of derivative instruments to reduce exposure to risk associated with individual securities transactions or markets affecting corporate, institutional or individual clients. These include interest-rate caps, floors and collars, various kinds of contingent contracts, as well as futures and options on various types of instruments. It may be quicker, easier and cheaper, for example, for an investor to alter the risk profile of a portfolio using derivatives than by buying and selling the underlying instruments.

Securities market capitalization data, presented in Exhibit 3 at the country level, shows the United States with over 43% of the global total (outstanding bonds and stocks combined), followed by Japan with 16% and Germany (mostly bonds) with 7%, and a combined European share of 28%. This is reflected in new-issue volume (excluding government bonds), depicted in Exhibit 4 for the years 1992-97, with a U.S. share of about 64% of the global total. The European share of both market capitalization and new-issue volume should rise if introduction of the euro leads to an increasingly integrated, capital market dominated by performance-driven issuers and investors.

**Corporate Finance**

Corporate finance activities predominantly relate to advisory work on mergers,

**Exhibit 3**

# Capitalization of Major Securities Markets

Nominal Value Outstanding
($US Billions at 12/31/96)

| Country of Issuance | Bond Market | | Equity Market | Total Market Capitalization |
|---|---|---|---|---|
| | Public Sector | Private Sector | | |
| USA | 6,366 | 3,217 | 8,484 | 18,067 |
| Japan | 2,246 | 1,410 | 3,089 | 6,745 |
| Germany | 839 | 1,464 | 671 | 2,974 |
| Italy | 998 | 276 | 258 | 1,532 |
| France | 732 | 312 | 591 | 1,635 |
| UK | 448 | 214 | 1,740 | 2,402 |
| Canada | 313 | 133 | 486 | 932 |
| Netherlands | 200 | 201 | 379 | 780 |
| Other European | 992 | 925 | 550 | 2,467 |
| Other Non-European | 200 | 50 | 3,911 | 4,161 |
| **Total** | **13,334** | **8,202** | **20,159** | **41,695** |
| Total European | 4,209 | 3,392 | 4,189 | 11,790 |
| European % | 32% | 41% | 21% | 28% |

Data: Salomon Brothers, *1996 Securities Industry Fact Book* (New York: Salomon Bros., 1997.)

Exhibit 4

## Capital Market Activity — 1992-1997
($ billions)

| | 1997 | 1996 | 1995 | 1994 | 1993 | 1992 |
|---|---|---|---|---|---|---|
| US Domestic New Issues | | | | | | |
| - US MTNS | 284.7 | 255.3 | 404.9 | 282.8 | 260.3 | 169.4 |
| - Investment Grade Debt | 726.1 | 518.9 | 417.3 | 342.5 | 389.2 | 281.1 |
| - Collaterialized securities | 378.0 | 252.3 | 154.1 | 252.5 | 478.9 | 428.2 |
| - Junk and Convertibles | 174.8 | 121.4 | 30.2 | 36.4 | 69.5 | 53.7 |
| - Municipal Debt | 214.8 | 181.7 | 154.9 | 161.3 | 287.8 | 231.7 |
| *Total Debt* | 1,778.4 | 1,329.6 | 1,161.4 | 1,075.5 | 1,485.7 | 1,164.1 |
| - Preferred stock | 59.2 | 45.6 | 16.3 | 15.5 | 22.4 | 20.9 |
| - Common Stock | 118.5 | 115.4 | 81.7 | 61.6 | 101.7 | 72.4 |
| *Total Equity* | 177.7 | 161.0 | 98.0 | 77.1 | 124.1 | 93.3 |
| *Total Domestic* | 1,956.1 | 1,490.6 | 1,259.4 | 1,152.5 | 1,609.8 | 1,257.4 |
| International Issues | | | | | | |
| - Euro MTNS | 407.2 | 392.6 | 251.6 | 257.2 | 149.8 | 96.9 |
| - Euro and Foreign Bonds | 635.2 | 537.4 | 385.1 | 485.2 | 482.7 | 335.9 |
| - International Equity | 54.8 | 51.0 | 32.1 | 32.4 | 27.7 | 17.8 |
| *Total International* | 1,097.2 | 971.0 | 743.6 | 774.8 | 660.2 | 450.6 |
| *"World-Wide" Total* | 3,053.3 | 2,471.6 | 2,003.0 | 1,927.3 | 2,270.0 | 1,708.0 |
| Global Syndicated Bank | | | | | | |
| - Loans & NIFS | 1,265.8 | 1,400 | 1,098 | 785.6 | 555.4 | 403.0 |

Source: Securities Data Corporation, Investment Dealers' Digest

acquisitions, divestitures, recapitalizations, leveraged buyouts and a variety of other generic and specialized corporate transactions:

- *Mergers and acquisitions services* involve fee-based advisory assignments to firms wishing to acquire others (buy-side assignments) or firms wishing to be sold or to sell certain business units to prospective acquirers (sell-side assignments). The M&A business is closely associated with the market for corporate control, and may involve advisories and fund-raising efforts for hostile acquirers or plotting defensive strategies and recapitalizations for firms subject to unwanted takeover bids. It may also involve providing independent valuations and "fairness opinions" for buyers or sellers of companies to protect against lawsuits from disgruntled investors alleging that the price paid for a company was either too high or too low. Such activities may be domestic, within a single national economy, or cross-border between a M&A buyer in one country and a seller in another.

- *Recapitalizations* tend to involve advice to corporations concerning optimum capital structure, increasing or decreasing the proportion of debt to equity in the balance sheet, types and maturity-structure of liabilities, stock repurchases programs, and the like. The securities firm may provide financial advice on these matters as well as supplying the required execution services through its capital markets activities. There are also advisory services regarding energy, transportation or project financings that require specialized industry expertise.

- *Privatizations* became a major component of global wholesale financial services in the early 1980s, beginning with the U.K. and spreading to continental Europe and emerging market countries based on shifting political perceptions as to what types of economic activity belong in the public and private sectors, respectively. Privatizations have run the gamut from state-owned manufacturing and services enterprises to airlines, telecommunications, infrastructure providers, etc. using various approaches such as sales to domestic or foreign control groups, stock market flotations, global equity distributions, sales to employees share ownership plans, etc. Value-added by financial services firms include buy-side and sell-side advisory assignments as well as initial and secondary public offerings and distribution of securities in the privatized enterprises. Privatization transactions are usually included in global M&A deal-flow data.

- *Merchant banking* involves financial institutions' placing their clients' and their own capital on the line in M&A transactions and other equity participations. This could involve buying control of entire firms in order to restructure and eventually sell them, in whole or in part, to other companies or to the investing public. It may also involve large, essentially permanent stakeholdings in business enterprises, including board-level representation and supervision of management. Or it may involve short-term

subordinated lending (bridge loans or mezzanine financing) to assure the success of an M&A transaction, intended to be quickly repaid out of the assets of the surviving entity. Other areas of significant direct investments may include real estate and leveraged lease transactions, for example.

While it is difficult to allocate value-added with respect to corporate finance and advisory services to particular financial centers, Exhibit 5 provides data on the general geography of merger and acquisitions transactions. The volume of M&A deals in the 1980s was dominated by the United States, with the European share of the global deal-flow rising dramatically in the early 1990s and both U.S. and European deal-flow expanding in the privatization and corporate restructuring boom of the late 1990s. Again, advent of the euro and continuing pressure for improved competitive performance at the industry level, together with a good deal of privatization left to be done in countries like France and Italy, could again raise the European share in the future. Advisory work on the bulk of major M&A transactions is carried out in London and New York, although much of the work for smaller transactions is executed in the regional financial centers.

Some additional inferential evidence may be taken from the home-bases of the major firms in global finance. Exhibits 6A and 6B show the top-50 firms in terms of global deal-flow in 1997. Of the top-10, which handled 72% of the combined financial transaction volume, eight were American, two were European and none was Japanese. Of the top-20 firms, with a combined market share of over 93%, 13 were American, seven were European and none was Japanese. Note in Exhibit 7 that the Herfindahl-Hirshman index of market concentration for the top-10 firms increased from 328 in 1992 to 572 in 1997, and for the top-20 from 393 in 1992 to 620 in 1997, showing roughly a doubling of market

## Exhibit 5
## GLOBAL M & A DEVELOPMENTS
### (Volume of Transactions in US$ Billions and Percentages)

| | 1997 | 1996 | 1995 | 1994 | 1993 | 1992 | 1991 | 1990 | 1989 | 1988 | 1987 | 1986 | 1985 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Transactions: | | | | | | | | | | | | | |
| US Domestic | 488.3 | 330.7 | 218.5 | 199.8 | 101.1 | 119.3 | 108.5 | 124.9 | 250.1 | 293.2 | 203.9 | 200.9 | 192.3 |
| US Cross-Border | 101.9 | 84.5 | 106.5 | 58.4 | 34.9 | 33.5 | 40.5 | 73.0 | 85.6 | 77.9 | 50.2 | 39.3 | 15.9 |
| Intra-European | 242.4 | 193.3 | 151.8 | 85.6 | 59.9 | 91.0 | 117.2 | 127.2 | 130.1 | 86.4 | 54.9 | 20.7 | 11.5 |
| European Cross-Border | 78.5 | 73.2 | 72.4 | 57.1 | 33.0 | 43.0 | 53.8 | 97.7 | 74.3 | 54.6 | 41.4 | 35.4 | 8.8 |
| US-European Cross Border | (49.2) | (52.9) | (43.5) | (39.0) | (27.4) | (13.3) | (22.8) | (36.6) | (46.3) | (38.2) | (28.3) | (17.4) | (5.9) |
| All Other | 116.6 | 84.9 | 47.1 | 34.3 | 60.2 | 43.0 | 54.2 | 47.8 | 69.7 | 37.5 | 28.2 | 15.9 | 10.5 |
| Global Total | 978.5 | 713.7 | 552.8 | 406.9 | 261.7 | 317 | 351.4 | 434.0 | 563.5 | 511.4 | 350.3 | 294.8 | 233.1 |
| US/Total | 60.3% | 58.2% | 58.8% | 63.5% | 52.0% | 48.3% | 42.4% | 45.6% | 59.6% | 72.6% | 72.5% | 81.5% | 89.3% |
| Europe/Total | 32.8% | 37.3% | 40.6% | 35.1% | 35.5% | 42.3% | 48.7% | 51.8% | 36.3% | 27.6% | 27.5% | 19.0% | 8.7% |
| US Domestic/Total | 50.0% | 46.3% | 39.5% | 49.1% | 38.6% | 37.7% | 30.9% | 28.8% | 44.4% | 57.3% | 58.2% | 68.1% | 82.5% |

Source: Securities Data Company.

Exhibit 6A
Global Wholesale Banking and Investment Banking 1997
Full Credit to Book Running Manager Only
($ billions)

| Firm | Global Securities Underwriting and Private Placements | Global M&A Advisory(a) | International Bank Loans Arranged | Medium Term Notes Lead Managed (b) | Total | Percent of Industry Total |
|---|---|---|---|---|---|---|
| Merrill Lynch | 291,840 | 202,652 | 8,657 | 85,093 | 588,242 | 11.32% |
| Goldman Sachs | 200,647 | 225,146 | 7,996 | 47,933 | 481,722 | 9.54% |
| Chase Manhattan | 69,683 | 13,939 | 331,139 | 37,700 | 452,461 | 8.96% |
| Morgan Stanley Dean Witter | 199,043 | 209,723 | 1,939 | 26,595 | 437,300 | 8.66% |
| JP Morgan | 150,871 | 104,601 | 126,125 | 6,600 | 388,197 | 7.69% |
| CSFB | 124,973 | 137,998 | 30,423 | 74,842 | 368,236 | 7.29% |
| Salomon Smith Barney | 208,185 | 110,514 | 7,153 | 23,723 | 349,575 | 6.92% |
| Lehman Brothers | 162,022 | 54,163 | 6,404 | 81,285 | 303,874 | 6.02% |
| UBS/SBC | 69,252 | 113,799 | 12,620 | 1,100 | 196,771 | 3.90% |
| NationsBank | 28,342 | 31,422 | 116,182 | 196 | 176,142 | 3.49% |
| Citicorp | 11,116 | | 128,929 | 17,471 | 157,516 | 3.12% |
| Bear Stearns | 80,236 | 47,897 | 1,800 | 15,081 | 145,014 | 2.87% |
| DLJ | 66,673 | 62,144 | 4,898 | 1,400 | 135,115 | 2.68% |
| Bank America | 14,326 | 5,009 | 102,851 | 5,300 | 127,486 | 2.52% |
| Deutsche Bank | 47,083 | 32,960 | 9,233 | 26,000 | 115,276 | 2.28% |
| BT Alex Brown/Bankers Trust | 21,891 | 39,791 | 46,722 | 5,937 | 114,341 | 2.26% |
| ABN AMRO | 32,295 | 13,125 | 7,531 | 51,328 | 104,279 | 2.07% |
| Lazard Houses | | 79,979 | | 500 | 80,479 | 1.59% |
| Barclays Capital | 20,183 | 6,903 | 5,474 | 35,091 | 67,651 | 1.34% |
| NatWest Markets | 40,014 | 11,008 | 4,890 | | 55,912 | 1.11% |
| First Chicago/NBD | | | 50,286 | | 50,286 | 1.00% |
| Schroder Group | | 40,466 | | | 40,466 | 0.80% |
| Paine Webber | 33,434 | 5,130 | 975 | | 39,539 | 0.78% |
| HSBC | 20,219 | 17,996 | | | 38,215 | 0.76% |
| Paribas | 22,476 | 8,509 | 2,302 | 2,000 | 35,287 | 0.70% |
| Top 25 Firms | 1,914,804 | 1,574,874 | 1,014,529 | 545,175 | 5,049,382 | |
| Industry Total | 2,242,247 | 1,033,140 | 1,265,864 | 654,921 | 5,196,172 | |
| **Top 10 as % of Total Industry** | **67.11%** | **116.53%** | **51.24%** | **58.80%** | **72.02%** | |
| **Top 20 as % of Total Industry** | **82.00%** | **145.46%** | **75.91%** | **82.94%** | **93.25%** | |

(a) Completed deals only. Full credit to both advisors to targets and acquirers.
(b) Equal credit to both book runners if acting jointly.
Data: Securities Data Corporation

Exhibit 6B
Global Wholesale Banking and Investment Banking 1997
Full Credit to Book Running Manager Only
($ billions)

The Next Twenty Five:

| Firm | Global Securities Underwriting and Private Placements | Global M&A Advisory(a) | International Bank Loans Arranged | Medium Term Notes Lead Managed (b) | Total | Percent of Industry Total |
|---|---|---|---|---|---|---|
| BNP | 6650 | 11779 | 1397 | 17500 | 37,326 | 0.72% |
| CIBC Wood Gundy | 9,329 | 8,479 | 15,929 | 3,000 | 36,737 | 0.71% |
| Rothschild Group | | 35,195 | | | 35,195 | 0.68% |
| Daiwa Securities | 11,260 | | | 23,850 | 35,110 | 0.68% |
| Dresdner Kleinwort Benson | 11,912 | 21,402 | 1,538 | | 34,852 | 0.67% |
| Prudential Securities | 23,974 | 7,562 | | | 31,536 | 0.61% |
| Bank of NY | | | 29,607 | | 29,607 | 0.57% |
| Wasserstein Perella | | 27,489 | | | 27,489 | 0.53% |
| Nomura Securities | 25,639 | | | | 25,639 | 0.49% |
| RBC Dominion Sec./Bk of Montreal | | 5838 | 19287 | | 25,125 | 0.48% |
| ING Barings | 8,113 | 16,753 | | | 24,866 | 0.48% |
| Commerzbank | 9,924 | | 1,995 | 12,000 | 23,919 | 0.46% |
| Bank of Boston | | | 22,911 | | 22,911 | 0.44% |
| First Union | 6146 | | 16558 | | 22,704 | 0.44% |
| Toronto Dominion | 5884 | | 15929 | | 21,813 | 0.42% |
| Societe General (Fr) | 5569 | 10850 | 3220 | | 19,639 | 0.38% |
| Robert Fleming | | 14,479 | | | 14,479 | 0.28% |
| BHF Charterhouse | | 11878 | | | 11,878 | 0.23% |
| Nikko Securities | 11,493 | | | | 11,493 | 0.22% |
| Credit Lyonnais | | 7898 | 2824 | | 10,722 | 0.21% |
| Bank of Tokyo-Mitsubishi | 8315 | | 1498 | | 9,813 | 0.19% |
| Fleet Financial | | | 9383 | | 9,383 | 0.18% |
| Mellon Bank | | | 9041 | | 9,041 | 0.17% |
| PNC Bank | | | 7831 | | 7,831 | 0.15% |
| Wells Fargo Bank | | | 6065 | | 6,065 | 0.12% |
| BancOne | | | 5670 | | 5,670 | 0.11% |

(a) Completed deals only. Full credit to both advisors to targets and acquirers.
(b) Equal credit to both book runners if acting jointly.
Data: Securities Data Corporation

## Exhibit 7
## Global Wholesale Banking
## Market Concentration

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 |
|---|---|---|---|---|---|---|---|---|
| **Top Ten Firms** | | | | | | | | |
| % of Market Share | 40.6 | 46.1 | 56.0 | 64.2 | 62.1 | 59.5 | 55.9 | 72.0 |
| Herfindahl Index | 171.6 | 230.6 | 327.8 | 459.4 | 434.1 | 403.0 | 464.6 | 572.1 |
| Number of firms from: | | | | | | | | |
| USA | 5 | 7 | 5 | 9 | 9 | 9 | 8 | 8 |
| Europe | 5 | 3 | 5 | 1 | 1 | 1 | 2 | 2 |
| Japan | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Top Twenty Firms** | | | | | | | | |
| % of Market Share | | | 80.5 | 75.6 | 78.1 | 76.0 | 81.2 | 93.3 |
| Herfindahl Index | | | 392.7 | 478.4 | 481.4 | 439.5 | 517.6 | 620.9 |
| Number of firms from: | | | | | | | | |
| USA | | | 8 | 15 | 15 | 14 | 14 | 13 |
| Europe | | | 11 | 4 | 5 | 5 | 6 | 7 |
| Japan | | | 1 | 1 | 0 | 1 | 0 | 0 |

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concentration but still a very low absolute level.[7] The dominance of the U.S. firms is evident. These are predominantly based in New York, although the value-added they generate occurs in various financial centers around the world. This balance could shift as the major European universal banks acquire or build significant market-shares against their American rivals, especially if the euro creates disproportionate growth Europe's share of global transaction-flow.

**Investment Management and Investor Services**

At the beginning of 1997 there were approximately $27.4 trillion in assets under management worldwide, comprising some $5.3 trillion in mutual funds, $8.2 trillion in pension funds, $6.4 trillion managed by insurance companies, and $7.5 trillion in offshore private assets.[8] This compares with roughly $37 trillion in global banking assets and $41.7 trillion in total capitalization of global stocks and bond markets. This enormous financial pool constitutes the market for global asset management services.

There are a variety of asset-allocation services provided to institutional and individual investors, as well as technology-intensive investor services which reduce transactions costs, improve market information and transparency, and facilitate price discovery and trading:

- *Asset management* for institutions and individuals. With respect to institutions, major

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[7]The Herfindahl-Hirschman index is defined as $H=\sum s^2$, where s represents the percentage market share and $0<s<10{,}000$. H increases as the number of competitors decreases and as market-shares among a given number of competitors become more unevenly distributed.

[8]Ingo Walter,"The Global Asset Management Industry: Competitive Structure, Conduct and Performance," *Journal of Financial Markets, Institutions and Instruments,* forthcoming.

investors such as pension funds and insurance companies may allocate blocks of assets to be managed against specific performance targets or "bogeys" (usually stock or bond indexes). Closed-end or open-end mutual funds or unit trusts may also be operated by broker-dealers, banks, or fund management firms and either marketed to selected institutions or mass-marketed to the general investor community either as tax-advantaged pension holdings or to capture general household savings.

- *Private banking* to high net worth individuals usually involves assigning discretionary asset management to financial institutions within carefully crafted parameters. These may link asset management to tax planning, estates and trusts, and similar services in a close personal relationship with an individual private banking officer that involves a high level of discretion. Many private clients are confidentiality-driven, which makes them comparatively less sensitive to normal risk-return considerations and more sensitive to trust vested in the bank and the banker.[9]

- *Investor services and transactions infrastructure.* There is an array of services that lie between buyers and sellers of securities, domestically as well as internationally, which are critical for the effective operation of securities markets. This centers on domestic and international systems for clearing and settling securities transactions via efficient central securities depositories (CSDs), which in turn are prerequisites for a range of services, often supplied on the basis of quality and price by competing private-sector vendors of information services, analytical services, trading services and information processing, credit services, securities clearance and settlement, custody and safekeeping, and portfolio diagnostic services.

In asset management, Switzerland (Zurich and Geneva) and London share the top spot, with very different businesses centered on private banking and institutional asset management, respectively. Other continental European asset management centers are far behind. As of 1992, 42.1% of pension assets under institutional management were centered in the United States, 35.1% in Japan, 10.7% in the United Kingdom, 10.4% in France and less than 1% each in Switzerland, Germany, the Netherlands, Canada and

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[9]For a survey see Ingo Walter, "Financial Secrecy," in *The New Palgrave Dictionary of Finance* (London: Macmillan, 1995).

Australia.[10] Specifically with regard to equity fund management, London in 1996 ranked first with over $1 trillion under management, followed by Zurich, Basel and Geneva combined with $740 billion, Frankfurt with $157 billion (excluding intercorporate holdings), Edinburgh with $138 billion and Stockholm with $89 billion. None of the other European financial centers rank in the top-25. These numbers compare with $1.5 trillion managed in Tokyo and $896 billion in New York.[11] Such rankings in the future are likely to shift as European financial integration continues, especially under a single currency, with greater polarization possible.

No direct figures are available with regard to fee income generated from asset management activities. However, some evidence may be obtained from the location of the world's largest asset managers depicted in Exhibit 8. Note that location is quite dispersed, and while the major financial centers like London, New York and Tokyo are prominent, centers like Frankfurt, Paris, Boston, Munich, Zurich, Chicago, Pittsburgh and Baltimore are also important, as are unlisted specialist centers such as Geneva (private banking) and Bermuda (insurance and fund management).

Investor services, notably clearance and settlement, are undertaken in the various national financial centers by central securities depositories such as the Depository Trust Company in the United States, SICOVAM in France and Deutscher Kassenverein in Germany. Internationally, substantial cross-border transactions are handled either through bilateral links between national CSDs or through international CSDs, mainly Euroclear in

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[10] "P&I Watson Wyatt World 500," *Pension Age*, September 30, 1996.

[11] *Financial Times*, "Survey of Global Fund Management," April 27, 1997.

**Top Global Money Managers: AUM Execeeding $100 Million**
(As of December 31, 1997)

| | Total Assets Under Management (millions) |
|---|---|
| UBS (Zurich, Switzerland) | 920,000 |
| Japan Postal Insurance System (Tokyo, Japan) | 865,020 |
| FMR Corp. (Boston, MA) | 515,300 |
| Groupe AXA-UAP (Paris, France) | 500,300 |
| Zurich Group (Zurich, Switzerland) | 460,000 |
| Merrill Lynch & Co. (incl. MAM) (New York, NY) - merged Nov. 97 | 450,000 |
| Barclays Bank PLC (London, UK) | 385,449 |
| Credit Suisse/Winterthur (Zurich, Switzerland) | 380,000 |
| The Prudential Corporation (London, UK) | 350,000 |
| Nippon Life Insurance Co. (Tokyo, Japan) | 342,800 |
| The Vanguard Group (Valley Forge, PA) | 310,500 |
| State Street Boston Corp. (Boston, MA) | 300,947 |
| The Prudential Ins. Co. of America (Newark, NJ) | 271,700 |
| Capital Group Cos. (Los Angeles, CA) | 259,704 |
| Mellon Bank Corp. (Pittsburg, PA) | 258,923 |
| Deutsche Bank, AG (Frankfurt, Germany) | 240,000 |
| Bankers Trust Co. (New York, NY) | 239,582 |
| Morgan Stanley, Dean Witter & Discover Co. (New York, NY) | 234,806 |
| Allianz AG (Munich, Germany) | 210,000 |

| | Total Assets Un Management (millions) |
|---|---|
| J.P. Morgan & Co. (New York, NY) | 208,605 |
| Equitable Life Assurance Society of the U.S. (New York, NY) | 207,999 |
| Franklin Resources (San Mateo, CA) | 174,954 |
| Marsh & McLennan Cos. (New York, NY) | 173,443 |
| United Asset Management Corp. (Boston, MA) | 168,024 |
| Putnam Funds (Boston, MA) | 161,000 |
| American Express Co. (New York, NY) | 147,696 |
| Internationale Nederlanden Groep (Amsterdam, The Netherlands) | 140,000 |
| Travelers Group (New York, NY) | 133,337 |
| Wellington Management Co. (Boston, MA) | 133,162 |
| Northern Trust Corp. (Chicago, IL) | 130,252 |
| Chase Manhattan Corp. (New York, NY) | 130,095 |
| Invesco Group Ltd. (London, UK) | 126,172 |
| Nomura Securities Corp. (Tokyo, Japan) | 115,000 |
| PNC Bank Corp. (Pittsburg, PA) | 110,396 |
| Pimco Advisors (Newport Beach, CA) | 110,022 |
| Federated Investors (Boston, MA) | 101,300 |
| T. Rowe Price Associates (Baltimore, MD) | 100,390 |

Brussels and Cedel in Luxembourg.

To summarize, each of the types of financial services enumerated above has its own locational attributes. Some are highly mobile and, given modern information and communication technologies, could be carried out more or less anywhere. Some are difficult to carry out effectively in isolation, or may require "bundling" with other types of financial or infrastructure services and are therefore less mobile. Still others require a high degree of centralization due to economies of scale or economies of agglomeration.

## Locational Mobility of Financial Value-Added

Financial intermediaries, as well as the end-users of the financial services discussed in the previous section, have access to a broad range of locational choices for carrying out their activities. Back-office operations (e.g., payments functions, clearing and settlement of financial transactions) can be physically separated from the marketing functions and the ultimate client-interface with no loss of service quality and significant potential for cost improvement. In theory, only certain specific functions in today's technological environment still need to be carried out in direct physical proximity to the client; most others may ultimately gravitate toward the most cost-effective siting. This is certainly true at the wholesale end of the industry, and it is becoming more true at the retail end of the financial services spectrum as remote-delivery (e.g., via the Internet) gradually captures greater market-share.

The financial services sector has thus become a much more "mobile" industry, one that is particularly sensitive to operating costs and regulatory burdens. Many banks,

securities firms, insurance companies and asset managers — as well as their clients — today have access to a broad range of location choices for conducting their activities. Indeed, the financial services industry can be considered to cover a spectrum of activities that ranges from *potentially high-mobility* functions such as data processing, investment management, institutional sales and trading, and remote-servicing of mass markets, to *low-mobility* functions that require direct and personal contact with clients such as corporate borrowers, municipal governments, investors and private individuals.

The economics of high-mobility activities can be described as *centrifugal*, or *supply-oriented*. Modern information and transaction technologies make it increasingly possible to conduct such activities in remote locations in order to take advantage of lower labor or real estate costs and other production considerations that can differ widely both interregionally and internationally, as well as potential economies of scale and scope. Certainly, transactions processing can often be physically separated from the marketing of the financial transaction itself. Why undertake data-entry for insurance claims in Zurich, when Ireland offers plentiful lower-cost skilled and motivated labor, lower rents, and significant tax breaks, for example? Why not "pool" or "outsource" some processing-intensive activities to a vendor like IBM or Electronic Data Systems, which can do it cheaper and better with increased scale economies in low-cost locations, providing significant operating economies and at the same time liberating a large amount of capital? However, issues related to quality-control, speed, security, reliability, confidentiality and the value of information based on transaction flows may limit such rationalization of production.

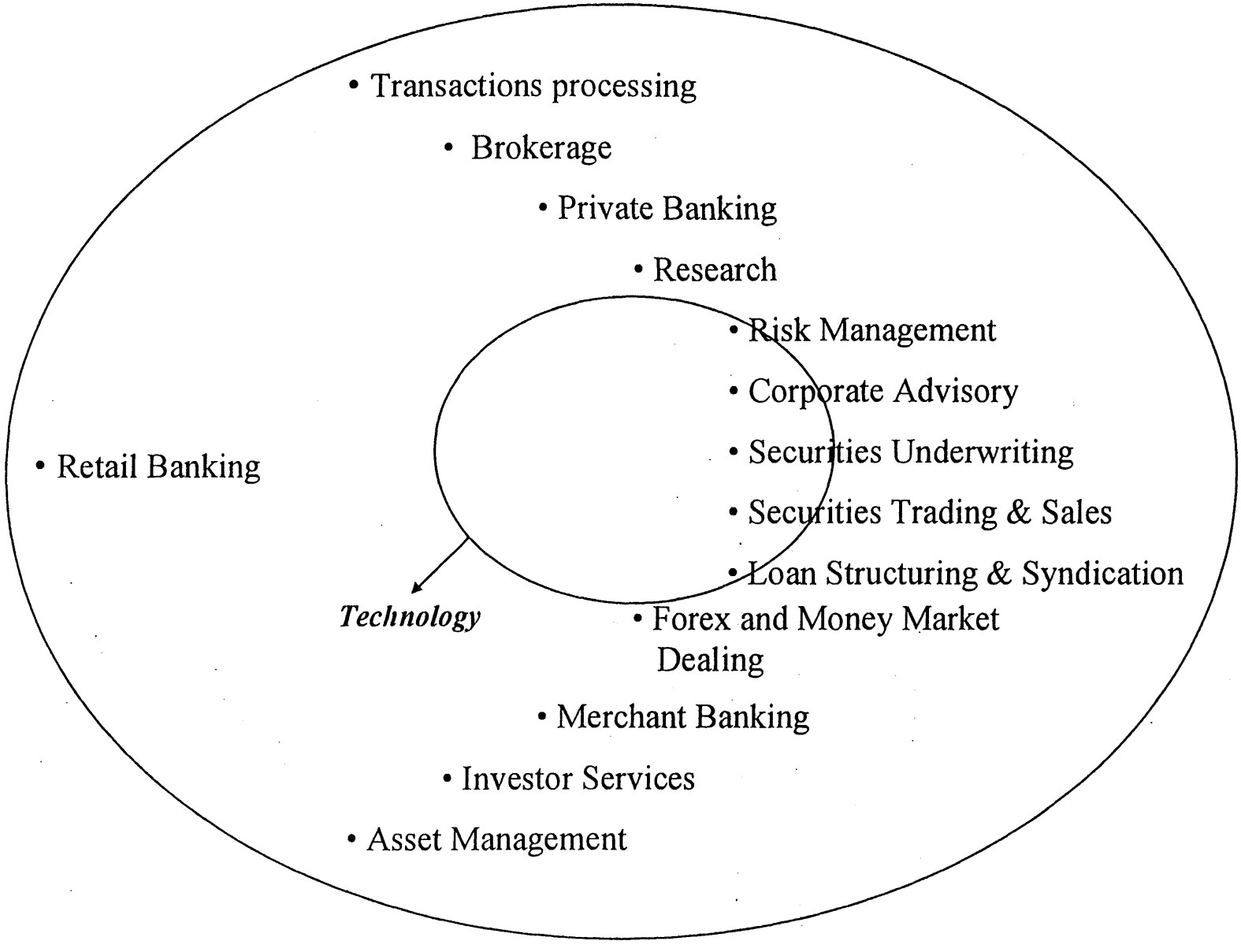
The economics of low-mobility financial activities can be described as *centripetal* —

*agglomeration-* or *demand-oriented.* They are driven by proximity and economies of agglomeration, personal contact, social relationships and other qualitative factors. There is no way to develop a private banking relationship, or to structure a complex corporate finance transaction involving investment bankers and lawyers, without close personal interaction. Although technically feasible, it is not entirely clear that a portfolio manager or securities trader can do his or her job as well in a remote location away from colleagues and competitors, and away from the excitement and "smell" of the market. Still, modern technology can often be used to convert "front-office" to "back-office" activities, and thereby loosen ties to client-linked and agglomeration-oriented locations.

Technology is the a major factor affecting the balance of centrifugal and centripetal forces acting on the location of financial activities, and therefore on the underlying economics of financial centers. Traditionally, the centripetal forces have dominated in the financial services industry, and have assured the dominance of the traditional financial centers. This now seems to be changing, permitting "unbundling" of financial activities and allowing the centrifugal forces increasingly to make themselves felt.

One can envisage the mobility of functions within a circle that extends from those activities requiring direct and personal contact with clients such as corporate borrowers and issuers, government entities, institutional investors and fund consultants, and private individuals all the way out to back-office functions, investment management, and remote servicing of routine retail client transactions. One can also imagine a threshold, radiating out from the center of the circle in Exhibit 9, where the supply-related centrifugal forces may outweigh the demand or agglomerative centripetal forces for specific segments in the

Exhibit 9
Centrifugal and Centripetal Locational Mapping of Financial Services



financial-services value-chain with a given state of technology. One can argue that this threshold has traditionally been biased toward centripetal forces, with the need for substantially all functions to be carried out in-house and on-site in major financial centers. The need to locate in proximity to clients, as well as to legal and accounting services and other firms competing in the market, have tended to bias location toward the these centers. The argument is that technological change, and the ability to "unbundle" the various financial functions, appear to have moved that threshold significantly to the periphery, with back-office activities, investment management, and remote client servicing easily done from sites well-removed from the center of the firm itself and away from the traditional financial agglomerations. The key question for the traditional financial centers is how much further that threshold can still move to the periphery, and how sensitive that movement is to factors such as labor cost and labor quality, tax and regulatory differences, and the available economic infrastructure, as discussed below.

Once management of financial firms has determined that the mobility-threshold can technically be overcome, and takes on a mind-set that relocation is feasible and may indeed be desirable, mobility inherently increases as the financial firm starts looking for alternatives, as the implementational issues are discussed, and the burden of proof may then become "why not move," as opposed to "why move?"

For example, relocation of back-office and data processing (DP) operations is perhaps the most mobile of a complex process of rationalizing information and transactions processing in financial firms. Back-office capacity must be on-line to handle existing and expected future business volume, transactions security, and a variety of

contingencies ranging from power failures to software problems. It does not, however, imply that a New York or London or Frankfurt-based firm necessarily has to site its information processing there. The cost and reliability of transmitting information is an important factor determining location, as are the potentially significant economies of scale and scope that exist in back-office functions, regardless of their location, and explains a number of efforts to "outsource" back-office functions – even "selling" back-office facilities to such firms and buying-back transactions processing services. Such efforts are likely to involve relocation of these functions to major DP "factories" serving multiple clients from remote sites. Other efforts involve "pooling" of back-office functions among a number of firms on a cost-sharing basis in order to rationalize these functions and drive down costs. This may require construction of new, high-capacity facilities, and in the course of the restructuring process the decision may be taken to locate such joint facilities at remote locations.

On the other hand, measures that would achieve maximum cost economies may compromise proprietary information and complete control. For this reason, outsourcing and pooling of back-office functions has limits. It is certainly feasible for some functions, but probably not for others. Most initiatives toward back-office outsourcing and pooling in the investment banking industry for example have not borne fruit, unlike similar efforts in mass-retail transactions processing or securities custody.

Competition among financial centers is thus in part a contest for market-share in centripetal value-added activities, and in part a battle to retain as much as possible of centrifugal value-added activities.

## How Do Financial Centers Compete?

Two more or less distinct types of financial center can be identified. One is the *functional* center, where transactions are actually undertaken and value is created in the design and delivery of financial services. Examples of traditional functional centers include New York, London and Hong Kong across a wide range of financial activities from syndicated lending to M&A advisory services, and Boston, Chicago, Frankfurt, Paris and Tokyo in a more specialized range of activities. The other is the *booking* center for transactions whose underlying value is mainly created elsewhere. Examples in this category include the Bahamas, Cayman Islands, Channel Islands, Liechtenstein and Vanuatu. In order to attract financial booking business, one prerequisite is a favorable tax climate for non-residents, a benign regulatory and supervisory environment as well as (sometimes) strict financial secrecy or blocking statutes. Centers like Bermuda, Luxembourg, Singapore and Zurich might be considered among the established "dual-capacity" financial centers, combining both functional and booking dimensions, as well as several newer centers like Dublin and Labuan in Malaysia.

What kinds of factors seem to determine competitiveness among *functional* centers? A number of studies suggest that the following considerations seem to be of importance:[12]

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[12]See for example Lawrence Goldberg and G. Hanweck, "The Development and Growth of Banking Centers and the Integration of Local Banking Markets", *The Review of Research in Banking and Finance*, Spring, 1990; R.W. Helseley and M.D. Levi, "The Location of International Financial Centers," *Annals of Regional Science*, May 1988; and R.W. Helseley and M.D. Levi, "The Location of International Financial Center Activity" *Regional Studies*, January 1989; S.P. Choi, A. Tschoegl and C.M. Yu, "Banks and the World's Major Financial Centers,1970-80," *Weltwirtschaftliches Archiv*, March 1986.On penetration of foreign banking organizations in domestic markets, see Lawrence Goldberg and Anthony Saunders "The Determinants of Foreign Banking Activity in the United States" *Journal of Banking and Finance*, March 1981; Charles Hultman L.R. McGee "Factors Affecting the Foreign Banking Presence in the U.S." *Journal of Banking and Finance*,

- *GNP growth.* Financial services, along with labor and capital, are important resources (or inputs) determining real output, so that high-growth economies tend to become the home of important international financial centers. A large and growing economy, however, is no guarantee of exceptional performance as a financial center.

- *Industrial base.* An important national nonfinancial sector requiring a range of financial services may constitute the basis for a viable global or regional financial center. Again, it does not by itself assure the ability to compete for transactions generated elsewhere, or to prevent domestically-generated business from migrating to financial centers abroad.

- *International trade-intensity.* Countries that are relatively open to international competition and trade are more likely to develop financial centers than are more closed economies.

- *Foreign direct investment- and trade intensity.* Banks and other financial firms tend to follow their clients abroad, so as to be in a better position to meet their needs (especially in the local currency). So countries with strong foreign direct investment inflows through acquisitions or greenfield projects, as well as large volumes of international trade, improve their chances of developing into financial centers.

- *Stability.* Political and macroeconomic stability have been important determinants of financial center development. Responsible fiscal and monetary policies reflected in low inflation and currency stability and convertibility, for example, are highly favorable attributes. So are perceptions of political continuity and predictability. Once lost, such characteristics can be very difficult to regain.

- *Product range and propensity to innovate.* A broad range of banking services, securities and derivatives, and strong innovative capabilities can be critical for successful financial centers. Centers which have developed into major wholesale players tend to be subject to relatively permissive regulators whose default response to a new product or a new financial structure is "yes, unless there are compelling reasons to prohibit," as opposed to "no, unless there are compelling reasons to permit."

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November 1989; and Robert Grosse and Lawrence Goldberg, "Foreign Bank Activity in the United States: An Analysis by Country of Origin," *Journal of Banking and Finance*, December 1991. On comparative growth of banks, see R. Dohner and H.S. Terrell, *The Determinants of the Growth of Multinational Banking Organizations 1972-86*, Board of Governors of the Federal Reserve System, IFDP No. 326 (June 1988); and Lawrence Goldberg and G. Hanweck, "The Growth of the World's 300 Largest Banking Organizations by Country", *Journal of Banking and Finance*, June 1991.

- *Infrastructure characteristics.* This includes such attributes as time-zone overlaps, quality of the physical capital stock (transportation, communications, etc.), and efficiency of governmental services. Shortcomings in any of these areas may be impossible to overcome.

- *Agglomeration economies and liquidity.* The larger the number of financial firms already in place and the greater the volume of financial activity (market depth) — as well as the larger the percentage of the skilled work force active in the financial service industry—the more likely a financial center is to attract still more participants. A high degree of liquidity, notably for block trades and good after-hours trading capabilities is critical for financial centers to attract significant wholesale business. It also includes a strong equity component—ranging from actively traded shares of large-cap global companies to IPOs and private equity— with significant turnover and deep institutional investor participation.

- *Transparency.* The issue here is whether transactions in a financial center are undertaken in a fair and open marketplace, and whether an adequate infrastructure exists for financial end-users and intermediaries. This includes the appropriate regulatory and enforcement infrastructure, mediation or arbitration, or recourse to the courts in civil or criminal actions. Transparency applies both to dealing in financial instruments as well as in the financial instruments themselves, including making issuers as well as underwriters liable for incomplete or false information in the case of securities sold to the general public. It also includes a uniform accounting and legal infrastructure that meets global standards.

- *Immediacy.* The role of time is critical in the operation of financial centers - the time it takes to make a trade, affirmation and confirmation of the trade, as well as clearance and settlement of the trade. Basic standards that have been set by the international financial community such as immobilization and dematerialization of securities, delivery versus payment, clearance and settlement time must be met or exceeded by a financial center that hopes to attract significant transactions volume.

- *Contestability.* This criterion concerns whether firms are allowed to develop the access to clients and markets and the organizational forms necessary to compete effectively in a particular financial market. The presence of cartels and exclusionary market practices such as limitations on exchange membership or discrimination by regulators can do much to retard the development of a financial center.

- *Labor force.* Quality, motivation and availability especially of skilled labor critical in the supply of financial services is a determining factor in the success of financial centers. Openness to highly skilled and motivated labor and management from abroad, including attractive and hospitable living and working conditions, is an important related variable.

- *Cost of operations.* Comparative cost of labor and real estate required to produce financial services in relation to comparable costs in alternative locations is an important consideration, especially in an era of intense competition among financial firms. Low transactions costs, notably in the form of commissions and spreads, clearance and settlement services, back-office operations, custody services, telecommunications and other financial infrastructure services are critical for the success of wholesale financial centers.

- *Taxation.* Taxes enter into the competitive performance of financial centers in two ways. The first involves the taxation of capital income, and there is a long tradition of specialist financial centers that have done very well by capitalizing on tax avoidance and evasion on the part of depositors and investors under the protection of national sovereignty, financial secrecy and blocking statutes. Examples include the Channel Islands, Luxembourg, Switzerland and various Caribbean and Pacific islands. The second involves taxation of financial transactions and earnings of the financial intermediaries, where Ireland or Bermuda are good examples. Most tax-driven financial centers comprise "niche" players as against the major global wholesale centers where taxation tends to play a relatively minor role.[13]

- *Net regulatory burden (NRB).* It is useful to think of financial regulation and supervision as imposing a set of "charges" and "subsidies" on the operations of financial firms exposed to them. On the one hand, the imposition of reserve requirements, capital adequacy rules, interest/usury ceilings and certain forms of financial disclosure requirements can be viewed as imposing implicit "taxes" on a financial firm's activities in the sense that they increase costs. On the other hand, regulator-supplied deposit insurance, lender-of-last resort facilities and institutional bailouts 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" provided by taxpayers.[14] The difference between these "charge" and "subsidy" elements of regulation can be viewed as the *net regulatory burden* (NRB) faced by financial firms in any given jurisdiction. Financial firms tend to migrate toward those financial environments where NRB is lowest — assuming all other economic factors are the same.[15]

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[13]Richard Levich and Ingo Walter, "Tax Driven Regulatory Drag: European Financial Centers in the 1990s," in Horst Siebert (ed.) *Reforming Capital Income Taxation* (Tübingen: J.C.B. Mohr (Paul Siebeck, 1990).

[14]Edward J. Kane, "Competitive Financial Reregulation: An International Perspective," in R. Portes and A. Swoboda (eds.), *Threats to International Financial Stability* (Cambridge: Cambridge University Press, 1987.

[15]Kane has argued that regulation itself may be thought of in a "market" context, with regulatory bodies established along geographic, product, or functional lines competing to extend their regulatory

Factors that do *not* appear to be important in determining the competitive position of financial centers, according to empirical studies, include the position of a particular city as a political capital, its age, or the role of the country in the shifting geopolitical environment.[16] The significance of a city's role as central bank headquarters for its role as a global financial center is debatable.

One can envisage a matrix, such as that in Exhibit 10, which maps various financial intermediation activities against the attributes of financial centers and may be helpful in assessing their comparative locational sensitivity in one of the most structurally complex and dynamic industries in the global economy. It is an industry that has become truly high-tech, dynamic and capital intensive, yet remains a "people business" *par excellence.*

**The Market for Markets and the Location of Financial Activity**

Variations in the multi-dimensional operating conditions in financial centers — combined with the differential sensitivity of value-added across the range of financial intermediation services supplied in global markets, regulatory competition and the existence of offshore markets — underscore the fact that financial services firms often face a range of location alternatives for executing transactions and performing support functions. Vigorous competition among financial services *firms* is today joined by equally vigorous competition among financial *centers*.

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domains. Financial firms understand this regulatory competition and try to exploit it to enhance their market share or profitability, even as domestic regulators try to respond with *re*regulation in an effort to recover part of their regulatory domain.

[16]See for example Lawrence Goldberg and G. Hanweck, *op cit.*

**Exhibit 10**
**Financial Centers: Three-Attribute-Activity Matrix**

| Attribute \ Activity | Trade Finance | Interbank Dealing | Loan Syndication | Foreign Exchange | Bond Underwriting | CP/Mtn Programs | Equity Underwriting | Securities Trading | Brokerage | Research | Risk Management | M&A Advisory | Corp. Advisory | Merchant Banking | Asset Management | Private Banking | Investment Services |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GDP Growth | X | | | | | | X | | | | | | | X | | X | |
| Indust. Base | X | | | | X | X | X | | X | X | | X | X | X | | | |
| Trade-intensity | X | | | | | | | | | | | | | | | | |
| FDI-intensity | | | | | | | | | | | | X | X | | | | |
| Stability | | | | | | | | | | | | | | | | X | |
| Product Range | | | X | | | | | | X | | | | | | | | |
| Innovation | | | X | | | | | | | | X | | X | X | X | | |
| Infrastructure | | | X | | | | | X | | X | X | | | | X | | X |
| Liquidity | | X | | X | X | X | | X | | | | | | | X | | |
| Transparency | | | | | X | X | X | X | | X | | | | | | | |
| Immediacy | | X | | X | | | | | X | | | | | | | | |
| Contestability | | | | | | | | | | | | | | | | | |
| Operating Cost | | | | | | | | | | | | | | | | | X |
| Tax Burden | | | | | | | | | | | | | | | | X | X |
| Regul. Burden | | | | | | | | | | | X | | | | | | |
| Time-zone | | X | | X | | | | | | | | | | | | | |

This competition can be framed in terms of static and dynamic efficiency properties, with comparative weaknesses in efficiency, liquidity or creativity driving financial transaction-streams and the associated value-added to high-performance centers where they can form the basis of a major source of employment and economic growth. London, New York and Tokyo are battling for advantage on the world stage as financial "hubs." London (outside EMU, at least at the start) is itself vigorously competing for position against Frankfurt, Amsterdam, Luxembourg, Paris and Zurich on the increasingly level EU playing field. Meanwhile Tokyo, along with Hong Kong and Singapore, are maneuvering for competitive advantage in the Asia-Pacific region, both against each other and against other countries working to keep domestic financial transactions at home and, in some cases, to become mini-financial centers themselves. In order to capture market-share, regulatory initiatives have been the key policy factors in the battle for value-added in financial intermediation among financial centers. They have affected all of the major financial centers, and have intensified competition among them.

The development of offshore currency and bond markets in the 1960s was an early example which showed that borrowers and lenders alike could carry out the requisite market transactions more efficiently and with sufficient safety and professionalism by operating outside national financial markets, in what amounted to a parallel market.[17] The U.S. interest equalization tax (IET), imposed in order to deal with the balance of payments problems at the time, was intended to force international companies to finance their

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[17]For a discussion, see Roy C. Smith and Ingo Walter, *Global Banking* (New York: Oxford University Press, 1997).

expansion outside the United States in order to reduce capital outflows. This was accompanied by limits imposed on foreign equity investments by the Office of Foreign Direct Investment (OFDI). Together with tax and regulatory advantages (including the use of bearer securities and the absence of new-issue disclosure rules) the IET represented a policy shift that made new debt issues in the United States relatively unattractive for many borrowers, and Eurobond issuance developed rapidly in London after 1963.

Initially considered a temporary and insignificant departure from the U.S. corporate bond market, growth of the Eurobond market over the next two decades was spectacular, especially as additional financial firms became involved and the market's infrastructure and depth matured. Eurobond issuers came to include most of the major corporate and institutional borrowers around the world, and dollar-denominated Eurobond volume for the first time surpassed U.S. domestic corporate bond market new issue volume in 1986. Despite U.S. repeal of the IET and the OFDI rules in 1974, introduction of Rule 415 (shelf) registration procedures in 1982 to streamline and enhance competition in the securities issuing process, elimination of the withholding tax on interest due to foreign investors in 1984, and adoption of Rule 144A in 1990 to liberalize trading in non-public offerings, Eurobond market activity never came back to New York to any significant extent. This suggests a ratchet-effect at work. Once financial activity migrates and a demonstrably successful market develops elsewhere, it is virtually impossible to reverse its course. Similar developments occurred in the 1980s and 1990s in Europe, as local trading in various German and French financial instruments faced challenges from London, which captured significant a market share by virtue of greater efficiency, transparency, regulatory

advantages and ultimately market depth, with efforts to re-attract the deal-flow back to the countries of the issuers only partly successful.

Sequential and perhaps competitive liberalization of onshore financial markets continued from the mid-1970s through the 1990s. Beginning with the 1975 New York Stock Exchange introduction of negotiated securities commission rates on May 1, 1975, the United States followed-up by liberalizing the rules governing public securities issues and private placements during this period, easing restrictions on investment banking activities of commercial banks, and tax changes designed to make its financial market more attractive to foreign issuers and investors. By the late 1990s, secure and pre-eminent in its domestic markets, New York nevertheless sporadically pursued reforms to address perceived competitive shortcomings -- such as the so far unsuccessful efforts to liberalize disclosure rules for foreign issuers -- in an effort to avoid losing business to foreign financial centers.

There followed liberalization of restrictive pricing, trading practices and market access rules in Britain's "Big Bang," announced in 1983 and implemented in 1986, having already repealed exchange controls in 1979 and later vigorously opposing various EU tax initiatives that would have diminished its competitive attractiveness. The City of London subsequently undertook a major study of its European and global role, and how to fend off challengers — and made far-reaching regulatory reforms in banking, securities and insurance in 1998 by creating a super-regulator, the Financial Services Authority (FSA) and relieving the newly-independent Bank of England of supervisory responsibility.

Japan only began serious financial deregulation some 20 years after the United

States and ten years after the United Kingdom with its own "Big Bang" near the end of the century, having lost some of its early promise as Asia's preeminent financial hub. Tokyo, struggling against massive credit and corruption problems affecting virtually every part of the financial services sector and even its regulators, seemed for the first time committed to serious liberalization that included opening the door to participation in Japan's high-savings economy by foreign financial institutions and asset managers.

Paris, meanwhile, took pride in what it had already achieved in deregulation in 1988-89 toward developing efficient and innovative markets for derivatives and local securities, and worked in the 1990s to remedy remaining regulatory and transparency shortcomings. To overcome its longstanding reputation as an "industrial giant but a financial dwarf," the world's largest importer of financial services, Germany, announced in the mid-1990s important institutional and regulatory changes intended to make Frankfurt the preeminent financial center of continental Europe by the year 2000. Amsterdam styled itself as the "financial gateway to Europe," but seemed destined to be mainly a niche-player along with Luxembourg and Dublin, and home-base for a few powerful financial institutions capable of global prominence. Along the way, there were many "mini-bangs" in Canada and Australia (both in 1984), as well as in Switzerland and a number of emerging financial markets such as Chile and Mexico — often under general programs of market-oriented economic reforms.

In sort, governments in one 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. Not least, an important

objective of regulatory reform was to support the competitive prospects of national financial centers, or at least to retard the migration of activities to financial centers abroad.[18]

## Picking the Winners

The financial centers of the world are thus caught in a vigorous struggle for market-share in and value-creation in primary and secondary-market financial intermediation and transactions processing. Each of the world's financial centers embody powerful entrenched interests, as well as continuing debates between the financial services industry and its regulators, that will help identify future winners and losers. It seems clear that the changing competitive environment and its implications for value-added in the financial services sector are well recognized by the authorities, and are reflected in policy debates. For example during the regulatory debates on the 1986 U.K. Financial Services Act, the global competitive performance of financial institutions and markets in London were considered of paramount importance. American regulators at the federal and local levels have increasingly taken global competitive aspects into account in assessing proposals for financial reform. In countries like Canada, Australia, Germany, France, Japan, the Netherlands and Switzerland, discussions of conditions affecting the financial services industry are invariably set against the need to maintain competitive position against London and New York. None of these financial centers is prepared to see its significance on the global stage decline, and all are acutely aware of the benefits of achieving a greater

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[18]For an early study, see Edward Kane, "Competitive Financial Reregulation: An International Perspective" in R. Portes and A. Swoboda (Eds.), *Threats to International Financial Stability* (Cambridge: Cambridge University Press, 1987).

share of financial activity.

In the end, the regulatory environment plays a critical role. Regulators express legitimate concerns about financial safety and stability in an industry that is always susceptible to problems of insolvency, illiquidity and fraud. Overregulation drives financial transactions away. Under-regulation is a recipe for disaster. In effect, regulators around the world are being compelled to rethink the balance between financial efficiency and creativity on the one hand, and safety and stability of the financial system on the other. They face the daunting task of designing an "optimum" regulatory and supervisory structure that provides the desired degree of stability at minimum cost to efficiency, innovation and competitiveness—and to do so in a way that effectively aligns such policies among regulatory authorities internationally and avoids "fault lines" across regulatory regimes.

Compounding the geographic competition for financial services value-added is the persistent functional migration across intermediation channels. This again has much to do with changes in the relative static and dynamic efficiency characteristics and intermediation costs via traditional financial institutions, as against more direct securities market processes. For example--in Europe, with roughly twice the proportion of financial assets on the books of banks and other financial intermediaries than the United States is likely to go through much the same financial disintermediation process as has occurred in the United States, propelled by the imperatives associated with rapidly-growing pools of professionally-managed funds and equally performance-oriented borrowers. For example, asset securitization — which, except for certain traditional mortgage-backed securities have experienced limited development in continental Europe - is likely to expand

dramatically in the years ahead. This includes securitization of commercial and industrial loans which, in a lending-oriented environment like Europe, offers great potential. And the next set of developments in both the United States and Europe may involve direct-distribution of securities to institutional investors, including automated links that have the potential of further cutting-out traditional financial intermediaries.

In particular, the rise to prominence of institutional asset managers in Europe will do a great deal to enhance financial market liquidity and further intensify both geographic and functional competition--reinforced by Maastricht-type criteria that will pressure governments to accelerate the transition from pay-as-you-go pension schemes to various types of defined-contribution programs[19] — as it already has in the United States and the United Kingdom. Mutual funds, whether part of defined contribution pension schemes or mass-marketed as savings vehicles to the general public, and other types of money managers are so-called "noise traders" who must buy and sell assets whenever there are net fund purchases or redemptions, in addition to discretionary trades to adjust portfolios. They therefore tend to make a disproportionate contribution to capital market liquidity.

One recent study suggests that the gradual shift from banking to securities transactions in Europe is likely to be accelerated by EMU, because the factors which underlie this development, by reducing transactions and information costs (both heavily driven by technology) and making available new products to end-investors and issuers, cannot be fully exploited in a fragmented foreign exchange environment, i.e., one

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[19] For a discussion of the overall capital market effects of EMU, see JP Morgan, *EMU: Impacts on Financial Markets* (New York: JP Morgan, 1997).

characterized by widespread currency-matching rules bearing on issuers and investors. This includes a range of financial instruments that are broadly available in the United States but have been unable to reach critical-mass needed for trading efficiency and liquidity in Europe.[20]

In 1997 the EU still supported a highly fragmented system of 32 stock exchanges and 23 futures and options exchanges among which only one market, London, came close to meeting the rapidly evolving needs of the large institutional asset managers and issuers. Continued fragmentation is perpetuated by differences in legal, tax and corporate governance considerations. In the presence of electronic links and low-cost transactions services to institutional investors this market fragmentation should disappear relatively quickly, especially under pressure of a single currency. Already, the EU Investment Services Directive (ISD) has permitted national exchanges to place trading screens in other financial centers. Easdaq in London has been in the process of creating a pan-European over-the-counter exchange patterned on NASDAQ in the United States to attract new, high-growth companies. National markets in Frankfurt, Paris, Brussels and Amsterdam have been trying to do the same thing and link-up in the form of EuroNM to compete with both NASDAQ and Easdaq. Comparable initiatives are underway among the Nordic countries. Frankfurt, Paris and Zurich derivatives exchanges have banded together to compete with London's Liffe, which in turn has linked-up with U.S. derivatives exchanges.

The rapid growth of institutionally-managed asset pools and major securities issuers

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[20] "If EMU has the side-effect of bringing those assets to the market, then the playing-field will tilt a little. If technology shifts the 'management expenses' goal posts as well, then we may be in a new ball game." Graham Bishop, *Post Emu: Bank Credit Versus Capital Markets* (London: Salomon Brothers Inc., 1997).

in Europe, is likely to promote a fairly rapid shakeout of these competing market initiatives --certainly under conditions of a common currency--based on how they meet efficiency and liquidity criteria, with perhaps a single order-driven electronic market dominating trading in shares of the major international companies and the regional exchanges accounting for the bulk of European trading activity in mid-cap and small-cap shares. It is useful to remember that the large, integrated U.S. capital market supports only one major stock exchange and one major OTC trading system, alongside a number of specialist exchanges in New York, Philadelphia, Chicago and San Francisco plus continued challenge from electronic order-driven exchanges. The U.S. structure of financial centers that has evolved may well be an appropriate indicator for a future integrated European market supporting the rapidly growing needs of global intermediaries and end-users:

(1) A single wholesale market for transactions-execution (New York) that is not necessarily the same as the seat of monetary policy and financial regulation (Washington), with a reasonable argument to be made that a bit of geographic "distance" between the markets and their regulators can actually be helpful. (2) Dispersed asset management centers (Boston, Chicago, Philadelphia, Stamford, San Francisco), and sometimes no distinctive centers at all in where the necessary information, interpretation and transactions services can all be delivered electronically and in real-time. (3) Specialist centers focusing on particular financial instruments (Chicago, Philadelphia) or industries (San Francisco) that have their roots in history or ongoing economic developments.

As in any industry, comparative advantage and the interplay of free markets will ultimately determine who wins and who loses in the battle for supremacy among financial

centers in an age of enhanced mobility of financial value-added.

The name of the game in global financial services today is value-added—creating perceived incremental value for those who need to borrow, undertake financial transactions, control risks, or manage assets-and at the same time provide a profit opportunity for the intermediary. It is a fast-moving, innovative and fiercely competitive contest on an ever-changing playing field. Those institutions judged world-class players in the years ahead will have mastered this skill. So will the successful financial centers, in the process capturing for their nations some very substantial real economic gains. The size, openness of markets, trading activity, sophistication of institutional investors, securities issuers and traders, the quality of research, transaction services, and innovative thinking that have traditionally characterized the global financial hubs will continue to be subject to challenge in specific areas by various other financial centers, even as the more mobile parts of the financial value-chain migrate to cost-effective sites outside the main centers.