Chapter 3

The Extent of International Securities Trading

Global trading of securities is rapidly developing.[1] The foreign exchange (currency) and government bond markets are already thoroughly internationalized. Most international securities trading now involves debt securities rather than equities. To what extent this globalization will also apply to corporate equities, and how quickly, is somewhat uncertain, but by most measures it is well underway. There is already growing cross-border trade in the shares of many giant multinational companies. Most exchanges have opened their membership to foreigners. Some exchanges are already offering derivative products (e.g., stock-index futures contracts) based on stocks that are listed and traded in the markets of a different nation.

Securities markets are already globally linked in still another sense. Because of the growing interdependence of national economies around the world, their securities markets tend to move in parallel, especially in times of stress.[2] This parallel movement was illustrated in the crash of October 19-20, 1987, and again on October 13, 1989, when markets around the world saw a sharp decline (figure 3-l). In the first 3 months of 1990, when the Japanese Nikkei Index lost about 25 percent of its value in a series of spasmodic declines, it was widely feared that other markets would also drop. This did not happen, apparently because there were specific domestic reasons for the Japanese market's behavior, but there were definite ripple effects in U.S. and European markets, and it is not yet certain that their relative immunity to Japan's problems will last.

The globalization of securities markets raises an important question for U.S. policymakers: What actions need be taken to assure the position of the United States as a world center for securities trading and other financial services? The claim is often made that U.S. markets are the best in the world in terms of liquidity, efficiency, and fairness, but they have increasingly strong competition. In 1980 the United States accounted for 55 percent of world stock market capitalization, but that stood at 35 percent in 1990, having dropped for a time to a low of 32 percent[3] (see figure 3-2). The Tokyo Stock Exchange was the world's largest from 1987 to 1989, but then fell back to 34 percent in 1990 as a result of large declines in market prices. Japan's first rank in 1987 to 1989 raised fears in some quarters that the United States is falling behind in global securities trading. Market capitalization alone is not a good measure of market strength, or of trading performance; it is affected by many other economic conditions.[4] But rightly or wrongly, the performance and vigor of securities markets is often taken as an indicator of the health of an economy, and thus has significant political implications.

Additional risk to U.S. investors is also a public policy concern. As the globalization of securities markets continues, Congress will need to address several questions:

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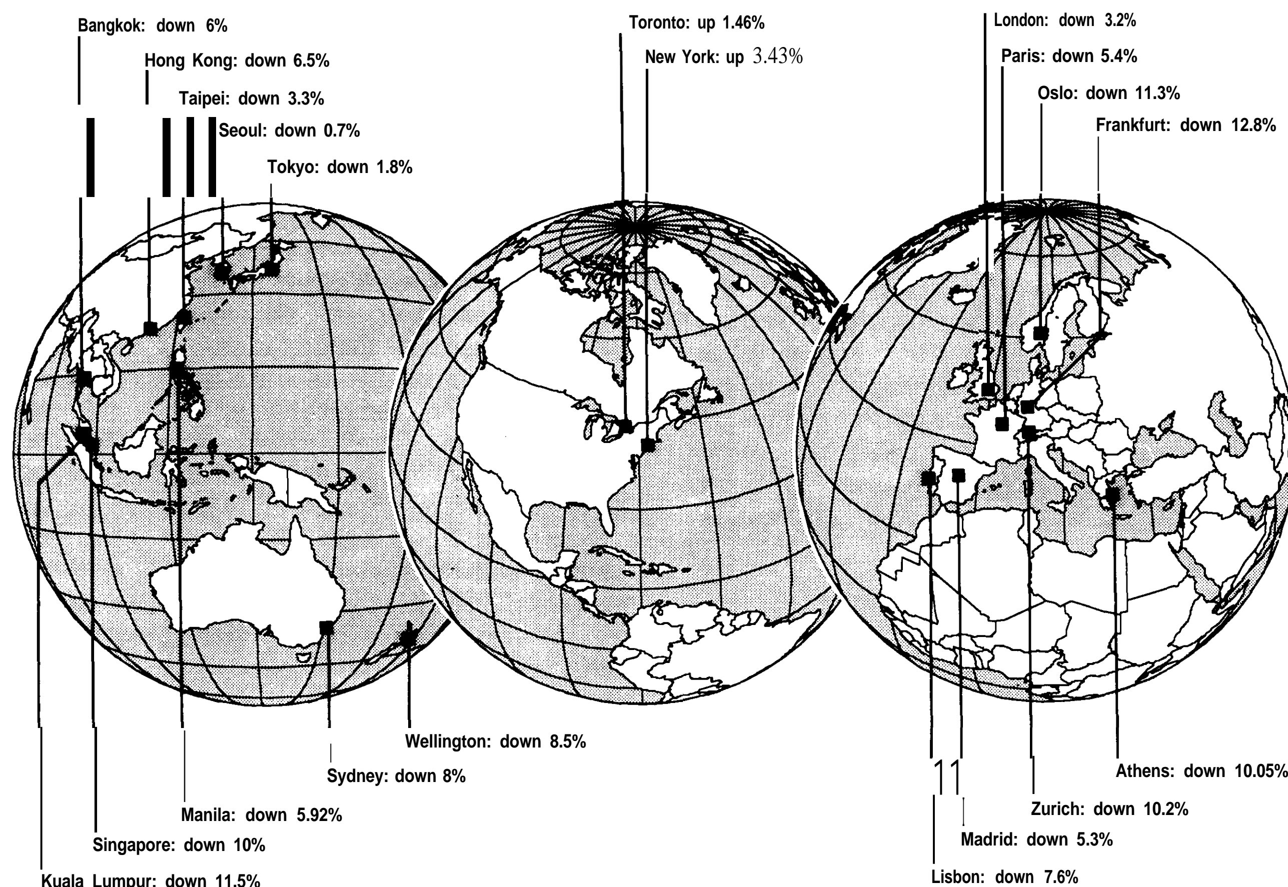
[1] This chapter draws on several OTA contractor reports, including: Eric K. Clemens, Principal Investigator, with Stephen P. Broad, Ravi Venkateswaran, and Bruce W. Weber, "Globalization of Securities Markets" (Philadelphia, PA: Wharton School, University of Pennsylvania, July 1989); Peter Schwartz, "Scenarios for Regulation of International Securities Trading" (San Francisco, CA: Global Business Network, Nov. 3, 1990); Manning Gilbert Warren III, "Securities Regulation in the European Communities" (Tuscaloosa, AL: University of Alabama Law School, August 1989); KPMG Peat Marwick, "The Competitive Position of Commercial Banks in the Global Securities Markets: An International Study," 1989.

[2] For example, in most markets equity prices rose from August 1982 until September 1987. During the 6-day trading period from the end of Oct. 9 through Oct. 19,1987 (Oct. 20 for Japan), the Dow Jones Industrial Average declined by 30 percent, the NASDAQ Composite Index by 18 percent, the ISE Financial Times 100 Index by 13 percent, and the Tokyo Stock Exchange Nikkei 225 Index by 17 percent. NASD Special Committee of the Regulatory Review Task Force, "Quality of Markets," p. 17. See also, Federal Reserve Bank of New York, "The International Transmission of Stock," George M. vonFurstenberg and Bang Nam Jeon, "International Stock Price Movements: Links and Messages," *Brookings Papers on Economic Activity, No.* 1 (Washington, DC: Brookings Institution, 1989), p. 165; and "Price Disruption in October 1987," and "International Linkages Among Equities Markets," *Quarterly Review, vol. 13, No. 2, Summer 1988.*

[3] Total world capitalization was about $9.4 trillion. Japanese share of world capitalization rose from 17 percent in 1980 to 45 percent in 1989. Data supplied to OTA by International Finance Corp. and the New York Stock Exchange. Figures for the end of 1988 were even more striking: world total capitalization was $9 trillion, United States 30 percent, Japan 42 percent. The 1990 figure for Japan is from the *Financial Times, March* 1990, p. 40.

[4] In the 1980s the United States had a recession, and the value of the currency fell, which affected the rate of capitalization. Japanese markets expanded because of the success of Japanese industry, Japan's capital surplus, its high savings rate, and the Japanese Government's use of the stock market as an instrument of economic policy in privatizing government-owned industry and restructuring financial services. Three national companies have been privatized: Japan Tobacco, Japan National Railways, Nippon Telephone& Telegraph.

Figure 3-l—Evidence of the World's Markets on Oct. 13,1989



SOURCE: *Washington* Post, Oct.17, 1989.

- What additional risks to U.S. financial systems might result? How can unacceptable risks be avoided?
- Will U.S. investors be adequately protected in global investing?
- How can the United States encourage the development of worldwide cooperative or regulatory mechanisms for trading in international securities?

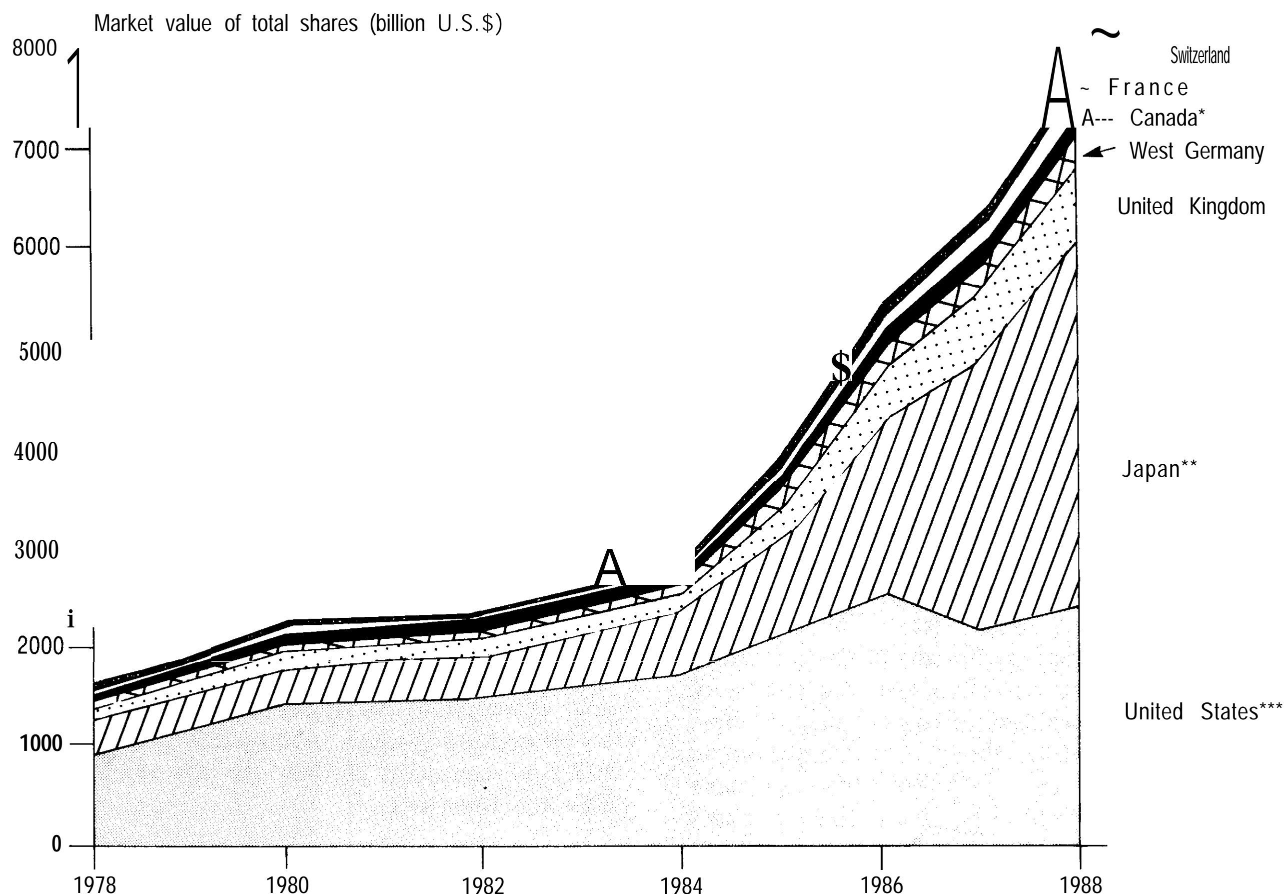
Alan Greenspan, Chairman of the Board of Governors of the Federal Reserve System, recently told a congressional committee that the delays and uncertainties of trade execution, clearing, and settlement across national boundaries are serious problems: "It is the float that creates systemic risk."[5] He called for harmonization of national regulations and standards to eliminate artificial reasons to favor one market over others.

These risks may grow worse as globalization continues. Grant L. Reuben, an international banking expert, warns, ". . the enormous volume and speed of transactions and the cross-border integration and interdependence of institutions and markets have magnified both the impact and speed that a problem in one national market has on others."[6]

5 OA testimony on June 14, 1989, in Hearings on Internationalization of Securities Trading, before the Subcommittee on Securities, Senate Committee on Banking, Housing, and Urban Affairs. Systemic risk is a condition that threatens the stability of the national financial system or payments system; for example, the catastrophic failure of a major financial institution accompanied by cascading failures as the institutions on the opposite side of that institution's transactions in turn are unable to meet their obligations, causing their own creditors to be unable to pay still others, etc.

6 Grant L. Reuben, Deputy Chairman of the Bank of Montreal, ''Implications of Globalization for Regulation and Safety,' remarks at the Financial Globalization Conference, Chicago, IL, Nov. 2, 1989.

Figure 3-2—Market Capitalization of World's Stock Markets



Toronto Stock Exchange
● TSE only
● **NYSE

SOURCE: Internationalization of the Securities Markets 1988. Federation of German Stock Exchanges Annual Report, 1988.

TRENDS DRIVING GLOBALIZATION

Institutional investors, and to a lesser degree individual investors, trade in the markets of more than one country in order to find higher rates of return at acceptable risk, to diversify their portfolios, or to take advantage of other hedging techniques. The forces encouraging the rapid expansion of international securities trading are:

- the declining costs of international communications;
- increasing world trade and interdependence among national economies;
- concentration of capital in countries with relatively limited opportunities for domestic investment, especially Japan;
- the necessity in some countries, especially the United States, of financing government debt (this led the United States, for example, to encourage foreign trade in Treasury bonds);
- the growth of large institutional funds such as mutual funds and private and government pension plans, with a need to diversify their investments and hedge their risks;

- the changes in regulation of financial services in many countries, opening their markets to foreign participants; and
- the increase in international public offerings, especially as a result of privatization of government-owned industries in several countries.

Communications

The growing availability of telecommunications and computers reinforces the effects of these trends. Not only is information technology necessary for global trading of securities; it stimulates all kinds of trade among nations, familiarizingg potential investors with many translational corporations and their products and services. This reduces one historical barrier to trading of corporate securities outside of their home market-the lack of knowledge about underlying values on the part of foreign investors.

Telecommunications brings increased access to economic, industrial, political, and social information, both through the public media and through specialized information services. This is not an unmixed benefit. The speed with which information is transmitted between markets can have an adverse effect, if it forces decisionmaking at apace too rapid for the exercise of discretion. Communication of trade data is, moreover, not sufficient for disclosure of risk in securities trading. Basic data on many European, Asian, and South American corporations are not available, and there is little trans-border financial research and analysis available to investors.

In the early morning of October 19, 1987, hours before the New York markets opened, U.S. portfolio managers who anticipated a sharp drop in value of equities tier the previous week's slide, began selling shares in London. One mutual fund was said to have unloaded $95 million of equities,[7] illustrating the ease with which both information and capital can flow across national boundaries.

Interdependence

World trade patterns in goods and services encourage world trade in securities. Not only do multinational corporations become familiar in many countries, but they need to raise capital in the local currency for plant, property, equipment, and daily operating expenses. International trading of corporate securities grew sharply in the 1970s and 1980s. After the 1987 market crash, there was a temporary reduction in international trading. Most agree that international trading incorporate equities is likely to be limited to stocks of "world class" corporations. There are already at least 500 corporations whose issues trade internationally.

It is possible that a two-tier market will develop, with trading in these securities conducted in one to three world markets, with participants passing their trading books from London to New York to Tokyo, while other securities are traded only in their local market or time zone. The implications of such a two-tier market are uncertain. Already European securities market planners and developers are debating whether there should be different systems, different procedures, and different rules for retail customers and international/professional traders.[8] In the United States, the Securities and Exchange Commission (SEC) has approved a new rule (144a, Apr. 19, 1990) that will allow institutional investors greater freedom in trading private placement securities by exempting many such securities from registration requirements if they are not available to individual investors.

Capital Imbalances

Another force driving the globalization of securities trading is that some countries have accumulated "excess capital' not matched by productive domestic investment opportunities. That money is available for investment through the securities markets of other countries. One example is Japan, with its high volume of exports. European investors also find that their domestic markets cannot meet their investment demands.[9]

International imbalances lead to a flow of capital across national boundaries that some economists view with concern. In the United States, the growing Federal deficit has been financed to a significant degree by foreign purchases of Treasury bonds.

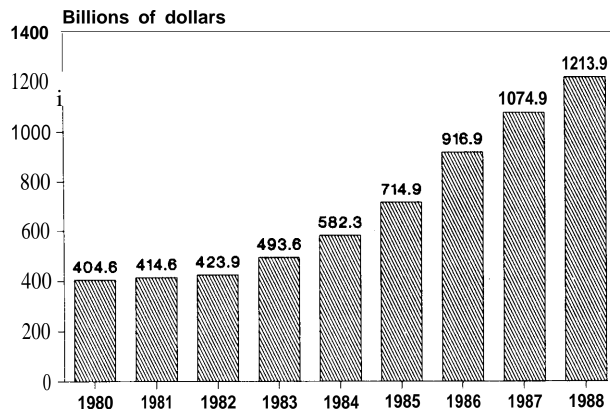
[7] Leo Melamed, "ThePainful Truth,'' *The InternationalEconomy,* July/August 1988, p. 59. Melamed Chairman of the Executive COmmittee of the Chicago Mercantile Exchange, This figure was put at $90 million in the Report of the Presidential Task Force on Market Mechanisms (The Brady Commission), January 1988, p. 30. Some OTA informants and advisors believe it was much larger.

[8] OTA discussions with officials of the International Stock Exchange in London, March 1990.

[9] Roy C. Smith, "International Stock Market Transactions," New *York' s Financial Markets: The Challenge of Globalization,* Thierry Noyelle *(cd.)* (Boulder, CO: Westview Press, 1989), p. 8.

There is concern that we have become dependent on an inflow of foreign capital that could be cut off, or could undergo sharp price increases (see figure 3-3). But U.S. policy with regard to international securities trading has been that the unimpeded flow of capital funds across national boundaries is basically advantageous both to countries requiring additional capital funds and those seeking markets for surplus capital funds.[10] Consequently the United States has placed few restrictions on foreign portfolio investment, and those are chiefly for information-gathering.[11] SEC disclosure rules, for example, apply to foreign as well as domestic issuers, and this is a problem for some companies whose home countries do not have similar requirements.

Figure 3-3-Foreign Holdings of U.S. Financial Assets



SOURCE: Goldman Sachs *Portfolio Strategies,* December 1988.

Financing National Debt

Foreign investment in the United States was essential to economic development in our first hundred years. In the middle of the 19th century foreigners held about half of Federal and State debt and a quarter of municipal debt. During the next six decades foreigners invested heavily in such burgeoning American industries as steel and railroads. Only during World War I did the United States cease being a debtor nation for a few decades as European nations liquidated U.S. holdings to raise money for the war.[12]

Further growth of the U.S. deficit and uncertainty about the stability of the dollar could inhibit foreign investment. It has probably caused some shift in Japanese equity investments from the United States to Canada, Europe, and Australia.[13] In 1980, 41 percent of foreign activity in U.S. securities was in corporate equities, but this has fallen steadily, to 9 percent in the first half of 1989, as U.S. Government debt became the focus of foreign investment; the proportion of foreign activity in Treasury bonds rose *from 53* to *87* percent.[14]

Institutional Investors

The growth of institutional investment funds such as pension funds and insurance funds, especially in the United States, is a major force encouraging international securities trading.[15] Public and private pension plans represent large concentrations of funds that must be invested, and' many institutional investment managers want to diversify fund holdings outside of their own country to protect against

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10Julius W. Allen, "Capital Market Changes in the United Kingdom, Japan, West Germany, and Singapore, A Brief Survey," Congressional Research Service Report 88-49-E, Jan. 14, 1988, p. 2.

11There are some limitations on direct foreign investment in specific industries such as energy, maritime, communications, and banking. The International Investment Survey Act of 1976 (22 U.S.C. 3101 et. seq.) mandated a study of the extent of foreign investment to be performed every 5 years, and the Domestic and Foreign Investment Improved Disclosure Act (part of the Foreign Corrupt Practices Act of 1977, Public Law 95-213) required anyone acquiring 5 percent of the equity securities of an SEC-registered company to disclose citizenship and residence. Michael Seitzinger, *Foreign Investment in the United States: Major Federal Restrictions,* Congressional Research Service Report 88-164 A, Feb. 23, 1988.

12Ibid. In 1988, total foreign direct investment in U.S. plants and machinery was $326.9 billion, compared to U.S. direct overseas investment of $308 billion. But the U.S. investment is older; its current value is probably much higher. Some experts say that the returns on foreign investment here are significantly lower than returns on U.S. investment overseas. See, for example, Stephen Kindel, "Return of the Native," *Financial World,* Jan. 9, 1990, p. 20.

13The U.S. share of these Japanese institutional investments dropped from 55 percent in 1986 to 51 percent in 1987, according to Yasuhiko Ueyama, "Japanese Insurance Companies: Our Strategy for Investing in America," *The International Economy,* July/August 1988, pp. 64-65. Mr. Ueyama is president of Sumitomo Life Insurance Co. These figures were confirmed by the International Securities Clearing Corp. in 1990, but more recent figures are not available.

14Securities Industry Association, "Foreign Activity Report," Jan. 25, 1989, p. 5 and update by telephone, November 1989. Foreign activity in corporate bonds dropped from 5.3 to 2.6 percent during the period 1980-88.

15The dominance of institutional traders differs to some extent by country. In Europe, the largest holders of equities are big institutiona, and large banks usually handle investments for individual investors in a discretionary mode. In Japan, 69 percent of equities are held by corporations or institutions, but these tend not to be traded. Individuals do about 42 percent of the securities trading.

both potentially adverse currency fluctuations and domestic economic recessions.[16] The value of cross-border portfolio investments by U.S. private-sector pension plans grew from $21 billion in 1980 to $225 billion by the end of 1988.[17]

Some doubts about the value of this diversification as a kind of transnational hedging have emerged because of the way markets behaved in October 1987. As described in *The Economist:*

> . . . *the* world's 23 largest stock markets fell together during the October crash; and . . . most of them tracked each other closely for months. The correlations between stock markets during and after the crash were uncanny and unprecedented.[18]

This lessens the protection against risk to be achieved by international diversification. The correlation in market behavior is to some extent inevitable, given the interactions between interest rates and currencies, although precipitous drops in Tokyo stock prices in the first quarter of 1990 had only slight immediate effect on other markets. Because of the swift flow of information and the ease of shifting investments from one market to another, a precipitous decline in one marketplace could at any time alarm investors in other marketplaces and cause them to react. But international diversification also has other benefits, and is likely to remain attractive to institutional investors.

Regulation and Deregulation

Deregulation in the United Kingdom, Japan, and France has also encouraged international trading by increasing the access of foreigners to those national markets and their securities firms. This kind of deregulation may be called "access deregulation." There has been a general worldwide trend toward access deregulation, and at the same time a worldwide trend toward increased prudential regulation (sometimes misleadingly called "re-regulation"), aimed at stronger investor protection. London's dramatic access deregulation in 1986, called "Big Bang,' stimulated other European exchanges to improve their quotation and settlement systems, broaden exchange membership, and lengthen trading days.

Privatization

Another force encouraging the cross-national holding of equities has been the privatization in the United Kingdom and Japan of-very large industries that had been owned by the state. More stock had to be offered for sale than could be absorbed by investors in a single country, so there have been many stock issues that are offered in several countries at the same time, with each country's allotment, or "tranche," consisting of millions of shares.

OBSTACLES TO INTERNATIONAL SECURITIES TRADING

Although there are strong forces encouraging globalization, there are also many obstacles:[19]

- lack of liquidity in smaller markets;
- government policies or regulations designed to exclude foreign participants from national markets;
- other legal barriers such as exchange controls, discriminatory taxes, and deposit requirements;
- differences at the interface of banking and securities activities;
- difference in clearing, settlement, and payment systems;
- nongovernmental but officially condoned practices (in effect, non-tariff trade barriers) which exclude foreign interests, such as restrictions on membership in exchanges;

[16] From 1985 to 1987, U.S. pension plans increased their foreign equity holdings by $19 billion, while their holdings of U.S. equities decreased by $47 billion. Smith, op. cit., footnote 9. At the end of 1988, U.S. private-sector pension funds had $52,5 billion in foreign investment. United Kingdom private pension plan investment overseas was $69 billion at the end of 1988, Japanese private pension plan investment overseas was $33 billion. Foreign private-sector pension plans had approximately $62.4 billion in portfolio investments in the United States at the end of 1988, and this hadgrownto $67.7 billion by June 1989. (Information provided by Intersec Research Corp., November 1989.)

[17] Figures for 1980 and 1987 from SEC Staff Report to U.S. Senate Committee on Banking, Housing, and Urban Affairs and U.S. House Of Representatives Committee on Energy and Commerce, "Internationalization of Securities Markets," 1987, p. 88; 1988 figure provided by Intersec Research Corp. to OTA, November 1989.

[18] By one set of measurements, the correlation between the 23 biggest stockmarkets, which was 0.222 for more than 5 years before the crash, was 0.755 at the time of the-crash and has since then remained about 50 percent higher than the pre-crash figure. "Why Stockmarkets Move Together," *The Economist, Mar.* 11, 1989, p. 77.

[19] "International Trade in Services: Securities," summary of a report by the OECD Committee on Financial Markets, in OECD, *Financial Market Trends, May 1987,* pp. 15-43.

- differences as to accounting practices, regulatory structures, capital adequacy requirements, and investor protection standards;
- differences in corporate organization; and
- other social, cultural, or behavioral barriers.

The risks imposed by these difficulties, and particularly by the lack of standardized or harmonized methods of trading, clearing, settling, and making payment are serious. Many international trades fail to settle on time, often because as many as 12 financial institutions maybe intermediaries to a single securities transaction.[20] (See ch. 5.)

Laws and regulations in some countries forbid various kinds of participation in securities markets by foreigners. Tax laws may also inhibit foreign activities or reduce their profitability. Activities that are permissible in one country are illegal in others.

Less formal but pervasive social and cultural differences are also important. Outsiders may not be able to operate efficiently because of ignorance of language or culture or lack of necessary professional contacts. They may find it hard to recruit and manage indigenous staff. Access to bank loans may be difficult. In Japan, for example, long-established, interlocking, and stable relationships between domestic companies and banks put foreign firms at a competitive disadvantage.

One important difference between national securities markets is the extent to which banks are allowed to participate. In the United States, the Glass-Steagall Act of 1933 separated banking and securities-related activities. Japan's Article 65 is modeled after the Glass-Steagall Act. Until recently, Canada also placed legal barriers between banks and most securities markets activities. Most other countries have 'universal banking," meaning that banks can do underwriting and otherwise participate fully in securities markets, and banks are often the dominant participants in those markets. The general international trend has been toward more homogeneous regulatory treatment of financial institutions within countries.[21] This is true even in the United States, as Federal regulatory authorities--the Comptroller-General (Department of the Treasury) and the Federal Reserve Board-have gradually relaxed the interpretation of the Glass-Steagall Act to allow banks and bank-holding companies to edge into some securities-related activities.

HOW "GLOBALIZED" ARE SECURITIES MARKETS?

Several kinds of activities are subsumed in "market globalization,' a term that is often loosely used. They are:

- cross-listing stocks and bonds issued in Country A on the exchanges of Country B;
- investors of one country buying and selling foreign stocks in foreign markets, through foreign brokers;
- opening a country's stock markets to foreign brokers and dealers who serve both foreigners and nationals;
- legal or contractual ties between exchanges in different countries;
- "passing the book" or 24-hour trading, i.e., shifting the control of trading to colleagues in other countries and time zones;
- multinational offerings of stock;
- international mutual funds; and
- cross-national stock index derivative instruments.

Cross-listing of Stock

A simple form of internationalization of markets is listing stocks issued in Country A on exchanges in Country B. The value of cross-border offerings of bonds, including foreign and Eurobonds, grew from $38 billion in 1980 to $238 billion in 1988. The value of cross-border offerings of equity-related securities grew from $200 million in 1983 to $20.3 billion in 1987.[22]

London's International Stock Exchange (ISE) is the most "internationalized" of the world's big exchanges, with 23 percent of the companies whose stock is listed on the ISE being foreign companies. The Tokyo and New York Stock Exchanges, which are larger markets, have far fewer foreign companies listed (table 3-l); in 1989, the NYSE listed 82

[20] Junius W. Peake, "A Case for Standards in International Financial Markets-Jan. 1, 2000," a discussion paper prepared for the XII Annual Meeting of the International Organization of Securities Commissions, Sept. 1-4, 1987, Rio de Janeiro, Brazil.

[21] KPMG Peat Marwick, "The Competitive Position of Commercial Banks in the Global Securities Markets: An International Study," contractor report prepared for the Office of Technology Assessment January 1990.

[22] SIA, op. cit., footnote 14, pp. 58-59.

Table 3-I-Comparison of Major Markets

	Tokyo Stock Exchange	New York Stock Exchange	NASDAQ	London Stock Exchange (ISE)
Annual average trading volume [$ billion]	$2,234	&1 ,356	$ 347	$ 361
No. of listed companies, 1988	1,683	1,681	4,451	2,580
—Domestic	1,571	1,604	4,179	1,993
—Foreign	112	77	272	587
% Foreign	6.7%	4.6%	6.1%	22.7%

SOURCE: Office of Technology Assessment, 1990.

foreign stocks or ADRs[23]--3.7 percent of its listings. In the frost quarter of 1990, this rose to 93 listings, and their trading accounted for 5.8 percent of total share volume.[24] NASDAQ includes 196 foreign issues and 96 ADRs, 5.7 percent of listings.

Several smaller markets, particularly in Europe, are more "international" Of stocks listed on the The Netherlands exchange, 56 percent are non--domestic; Germany, 49 percent; Switzerland, 42 percent; and France, 32 percent.

Most stocks are still traded only in their country of origin. But London's SEAQ International regularly quotes 750 foreign equities, with continuous quotes in about 350 of them, resulting in trades valued at about £ 1 billion daily, compared to £ 1.4 billion in domestic equity trades and £ 10 billion in bonds.[25] In Tokyo about 120 foreign issues are traded, generally less than 2 percent of total volume, but recently this has risen to about 7 percent. *Euromoney* magazine reported in mid-1988 that there were 487 stocks with an active and liquid market in at least one trading center outside of its home Country.[26] The home country, for 60 percent of these stocks, was either the United States, Japan, the United Kingdom, Australia, or Canada.

Obtaining a listing on the Tokyo Stock Exchange (TSE) has become an important element in the global strategy of many export-oriented U.S. companies. Corporations are attracted by the large amount of capital available for investment and by the belief that Japanese investors are more interested in long-term growth and less concerned with very short-term performance than are U.S. investors. Some multinational corporations also reason that listing in Japan improves their corporate image in that country, helping them to attract a Japanese work force. Obtaining a listing on the TSE is, however, complicated and costly.

In the United States, foreign firms who want to list their securities on a U.S. exchange or NASDAQ may register them with the Securities and Exchange Commission (SEC), thereby subjecting themselves to our reporting provisions.[27] The SEC has, as noted, recently approved a rule exempting from reporting requirements companies offering private issues only to large institutional investors.[28]

International Portfolios

Another measure of internationalization is cross-national portfolio investment, the degree to which Country A's investors buy stocks issued in Country B. For all countries, investment in non-domestic securities was $250 billion in 1984 and $1,281 billion in 1987, a fivefold increase in 3 years (table 3-2). This strong growth in cross-national investment inequities was reversed temporarily in 1988 as an aftermath of the 1987 crash. New foreign

[23] Non-U.S. corporations wishing to have their equities securities traded in the United States can choose to have them traded as actual shares or as AmericanDepository Receipts (ADRs). An ADR is a receipt issued by a U.S. b@ conversable into a specified number of shares deposited in the issuing corporation's country of domicile. An ADR may be freely traded in the ADR market, related to but distinct from the market in the actual shares. Should a U.S. holder wish to obtain the shares, the ADR is presented to the U.S. depository bank for cancellation and reregistration before the original shares can be delivered to the holder. Price information on an ADR is in U.S. dollars and maybe easier to get than the price of underlying shares; purchasers of ADRs pay domestic rather than foreign trading commissions.

[24] Information supplied by the NYSE Washington office, Apr. 2, 1990.

[25] SEAQ International statistics.

[26] *Euromoney*, May 1988.

[27] But not t. some other rules, such as those governing shareholder proxy votes. Registering is optional unless the foreign issuer has mOre than 300 record shareholders in the United States, more than $3 million in total assets, and is engaged in business affecting interstate commerce.

[28] Rule 144A, approved Apr. 19, 1990.

Table 3-2—Total Cross-National Investment

Year	Total (billions of dollars)	Change
1984	$250	–
1985	$400	+60%
1986	$750	+88%
1987	$1281	+71%
1988	$1031	-19.5%

SOURCE: Securities Industries Association. Global Equity Analysis Reports.

investment in Japanese, American, British, Canadian, and West German equities in 1988 dropped much more than did domestic trading in those stocks.[29] In the highly internationalized London market, foreign trading in U.K. equities dropped nearly 30 percent, while all trading in U.K. equities dropped less than 5 percent.[30] Only Japanese investors made more overseas equity trades in 1988 than in 1987. Although reduced, the 1988 cross-border equities trading was still above that of 1986 and over three times the amount in 1984.

In 1950, foreign investors held a little more than 2 percent of U.S. securities; in mid-1988 it was nearly 12 percent.[31] Foreign investors hold nearly 22 percent of U.S. Treasuries (however, the holdings of corporate bonds increased faster than holdings of Treasuries). Foreign investors held about 6 percent of U.S. equities in mid-1988.

The large growth of foreign portfolio investment in the United States could be risky in a way that direct investment is not. Multinational firms monitor their currency exposure and stand ready to make massive shifts in response to changing conditions. Factories or farmlands will not be moved outside of the country, but foreign capital can be withdrawn in a matter of minutes or hours.[32] This could amplify a market decline, turning it into a rout. [See box 3-A.] In February 1990, as the Tokyo Stock Market went into a several-day decline for the frost time in years, this concern was voiced by a number of financial experts.

Box 3-A—Exogenous Events and U.S. Markets

U.S. markets could be thoroughly shaken by seemingly unrelated events in far-away places. Noting that some seismologists are predicting possibly devastating earthquakes in the vicinity of Tokyo, Tokai Bank generated the following scenario:

> ... Tokai Bank has estimated the damage that would be caused to financial markets if there were a repeat of the 1923 earthquake, a 7.8 on the Richter scale, that reduced Tokyo to rubble and left 142,000 people dead. The bank's conclusion is that America's stock and bond markets would be reduced to rubble too.
>
> ... (W)ith one-third of Tokyo's reclaimed land liquefying into mud, reconstruction would cost Y119 trillion ($847 billion). Japanese institutions would have to sell investments in America, sending stock and bond prices tumbling and interest rates soaring worldwide. Side-effects would be global stagflation and a worsening of the Third-World debt problem.
>
> The hypothetical earthquake that the bank sent rumbling through its computer model knocked 4.8 percent off Japan's gross national product for the current calendar year, causing the world economy to shrink 0.3 percentage points in 1989. The economic effects would go on reverberating for years . . . .

SOURCE: *The Economist,* July 15,1989, p. 7. (Condensed)

On the other hand, a strong case can be made that foreign capital, especially Japanese capital,. has acted effectively to stabilize American financial markets in recent years. David Hale, an international economist, says,

> In 1987 and 1988, the Bank of Japan purchased over $55 billion of U.S. securities in order to stabilize the dollar. The Ministry of Finance often used moral jawboning to prevent Japanese institu-

[29] Foreign individuals and institutions made purchases and sales of $288.3 billion in all U.S. securities markets in the firat 9 months of 1988, which was down 19.8 percent from the firat 9 months of 1987. AU transactions in foreign equities made on U.S. markets were also down in the same three quarters by 24.3 percent, to $107.3 billion.

[30] Securities Industries Association, *Global Equity Analysis Report*, vol. IV, No. 5, July 7, 1989. Japanese investors' net purchases Of foreign securities in 1980 was $4 billion; in 1988 it was $87 billion, and in the first 7 months of 1989 it was already $55.3 billion.

[31] Jeffrey M. Schaefer and David G. Strongin, "Why All the Fuss About Foreign Investment," *Challenge*, May-June 1989, pp. 31-35. Figures are baaed on Federal Reserve Flow of Funds, U.S. Treasury.

[32] One commentator alleges thatJapanesefund managers "triggered the crash" (in 1987) by dumping U.S. Treasuries 5 days earlier, causing a collapse in bond prices and a resulting rise in interest rates thatled to widespread selling of equities. R._ Murphey, "Power Without Purpose: The Crisis of Japan's Global Financial Dominance," *Harvard Business Review,* March-April 1989. But this report is not widely accepted.

tional investors, from dumping dollar securities during periods of exchange rate uncertainty.[33]

Richard Koo of the Nomura Research Institute told the Joint Economic Committee of Congress,

> During 1986 and 1987 . . . when the dollar and financial markets around the world came precariously close to total collapse, Japanese authorities tried to keep investors in dollars by telling them how much good the U.S. had done for Japan after the war, and how important it was for Japan to stay with the dollar to prevent the total collapse of the world financial system.[34]

Opening National Exchanges

Cross-country exchange membership and brokerage is another form of internationalization. Many countries have opened their exchanges for membership by foreign firms within the last 5 years, or have allowed foreign firms to buy or buy into their domestic securities houses for the first time. For example, the first 6 foreign members were allowed to join the Tokyo Stock Exchange in February 1986, and in 1988 16 more seats were made available to non-Japanese firms.[35] Other foreign firms probably want seats, even though membership costs are high. There are at least 47 foreign securities houses with branches in Japan; most were reported to be losing money in 1988-89. Four large Japanese firms trade overseas (Nomura, Daiwa, Nikko, and Yamaichi), and are reported to have invested $350 million in building up their American businesses. These are very large fins, so their international business accounted for only 1 percent of their pre-tax profits in 1987-88, down from 5 percent the previous year.[36]

Many American stockbrokers sought to operate in London's markets after the 1986 deregulation. Merrill Lynch, the first U.S. firm with an affiliate on the London Exchange and among the frost to apply for a primary dealership in government bonds, spent many millions of dollars in London on computers, staff, and anew headquarters. Merrill Lynch became the second largest Eurobond underwriter, and by 1987 it had a staff of 1,600 in London.[37] Other major U.S. securities firms and banks also made major efforts to build business in London. But after the October 1987 crash, they sharply reduced their London staff. All foreign brokerage houses in London were reported to be losing money in 1988 and 1989. The unprofitability of such foreign ventures causes some observers to doubt that international securities trading will grow as much, or as rapidly, as enthusiasts had predicted. But a more likely outcome is that as international trade increases, a few very large securities firms will eventually dominate the field.

Passing the Book

Twenty-four-hour trading is what many think of as "globalization." This occurs when a firm has facilities in locations around the world, and passes its "book" (i.e., control of its active trading) between those locations across time zones, in order to trade some instrument such as U.S. Treasury bonds around the clock.[38] (See figure 3-4.) Most 24-hour trading now is in foreign exchange and bullion, not equities.

There is some skepticism as to how prevalent 24-hour trading in equities will become. One study called 24-hour trading a myth, and said,

> Many of those who profess to trade for 24-hours acknowledge that they do so to maintain a "global" profile, not because 24-hour trading is a prime goal in itself.[39]

Other skeptics, attuned to the traditional, face-to-face form of trading prevalent in New York and Chicago, say that trading is an intensely personal activity and traders will neither be able to stay awake 24 hours or to let someone else trade for them. This

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33 David D. Hale, "The Japanese Ministry of Finance and Dollar Diplomacy During the Late 1980' s," July 1989 manuscript, provided to OTA by the author, who is a senior vice president of Kemper Financial Services, Inc.

34 Testimony on Oct. 17, 1988.

35 Six went t. American firms, 4 t. British firms, and 2 each to French, West German, and Swiss firms. Motohiro Ikeda, "Foreign Securities Firms," *The Japan Economic Journal, Summer 1988, p. 39.*

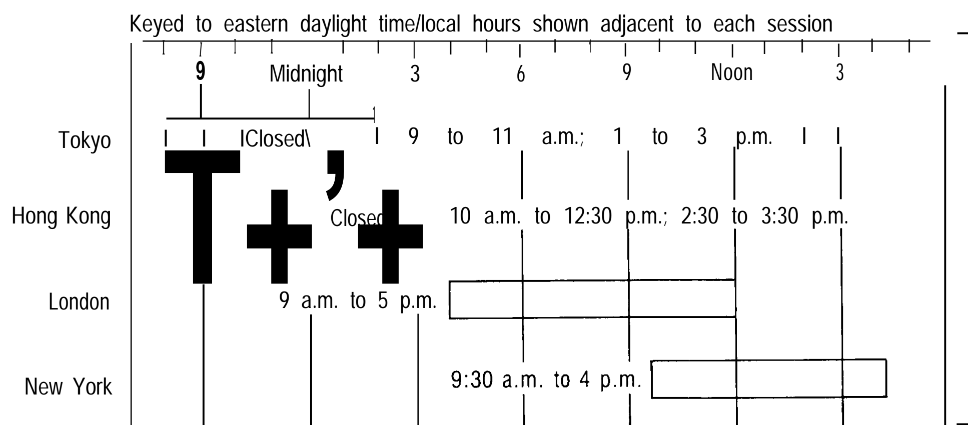
36 This is an informed journalist's estimate; see "Can Japan's Securities Firms Keep the Flag Flying?" The *Economist*, Dec. 3,1988, pp. 85-86. OTA was unable to obtain this information from the Japanese firms.

37 Craig Forman, "Merrill Scales Down London Ambitions," *The Wall Street Journal,* June 15, 1988, p. 20.

38 Foreign exchange has long been a 24-hour market. About $350 billion in foreign currency transactions take place every @, compared to about $5 billion daily on the NYSE. S. HanSell, "The Computer That Ate Chicago, " *Institutional Investor,* February 1989, pp. 181-188.

39 *Global Capital Markets*, a KPMG report (Amsterdam: KPMG International Office, peat Marwick McLintock Publications, 1988), p. 16.

Figure 3-4-Trading Around the World and Nearly Around the Clock



SOURCE: Office of Technology Assessment.

will probably not be a major barrier if 24-hour trading turns out to be profitable.

Richard D. Ketchum, Director of the SEC's Division of Market Regulation, claims that for most equities there will not be sufficient 24-hour order flow to encourage profitable risk-taking by market makers. This is different, he points out, from foreign currency and government bond markets "where ownership of the underlying assets have truly spread worldwide and relevant news regarding those markets occurs around the clock and around the globe."[40] This projection too depends on continuation of present conditions of ownership and information flow that tend to concentrate liquidity primarily in one home market. These conditions may already be changing.

U.S. broker-dealers may be likely to try 24-hour trading because they already have a large investment in information technology. Salomon Brothers opened a 24-hour desk in New York when the Chicago Board of Trade began evening trading in May 1988. Their business in futures and options is covered from New York during the hours that the U.S. or Tokyo markets are open, and from London when the London International Financial Futures Exchange (LIFFE) is open.

The most extensive, vigorous, and competitive 24-hour trading (except for currency) may eventually be in futures contracts.[41] The Nikkei index is traded on the SIMEX exchange in Singapore, as well as Osaka, and is approved for trading on the Chicago Mercantile Exchange (CME). LIFFE trades Japan's government bond futures and the Chicago Board of Trade (CBOT) announced (Nov. 21, 1988) that they would also do so. When CBOT expected that TSE was about to begin trading a T-bond futures contract in competition with CBOT's contract, the Chicago exchange responded by beginning to trade during evening hours, 6 to 9:30 p.m. c.s.t., Sunday through Thursday. Four months later, the Philadelphia Exchange began operating from 7 to 11 p.m. e.s.t., Sunday through Thursday and from 4:30 to 8 a.m. e.s.t., Monday through Friday, to accommodate traders in London and Tokyo. Thus, competition among exchanges, or the fear of it, is stimulating 24-hour trading.

The New York Stock Exchange may find it difficult to extend its trading hours because of its labor-intensive trading system.[42] It will be hard to find a second shift of specialists, at least until 24-hour trading has become a highly developed activity-and then it would probably be too late to

[40] Statement by Richard G. Ketchum, "Challenges Facing the Securities Industry," at a meeting June 16, 1989, sponsored by *Business Week* and Securities *Week*, manuscript provided to OTA by the author. The statement represents the personal views of the author, not a statement of SEC policy.

[41] Katsuyuki Nakagawachi, "Financial Futures: Round-the-Clock Trading Expected to Spread in Tokyo," *Tokyo FinancialMarkets,* a Special Survey of *The Japan Economic Journal, Summ*er 1988.

[42] The NYSE uses a specialist, or designated market-maker, system and trades must go through the specialist post (with some exceptions) when the floor is open for trading. *Floor* trading is supported by automated order routing systems and other forms of automation. See OTA's forthcoming report on information technology and domestic securities markets.

capture this market. Under the pressure of rapid development of international trading, however, the NYSE has recently announced "plans to explore off-hours trading." According to James Cochrane, the Exchange chief economist:

> By working with industry participants and exchange customers to assess current off-hours activity, trading procedures, and market needs, the NYSE is developing a strategic approach to emerging global markets. What roles extended hours, available technologies, and key market participants will play in these strategies have not yet been announced by the Exchange.[43]

Product Links Between Markets

Non-American exchanges are copying innovative instruments developed by the U.S. exchanges. The chairman of CBOT has complained that "[CBOT] contracts are being Xeroxed overseas."[44] There are many new derivative products (futures and options) markets in Europe, Scandinavia, and Japan, at least 36 in all outside the United States. Chicago markets did more than three-quarters of the world's futures trading only 5 years ago. This was down to 60 percent in mid-1989, and the TSE's yen government bond futures contract is now the world's most heavily traded. The rapid spread of derivative products markets in competition with U.S. futures and options markets has stimulated a greater willingness at the CME and the CBOT to try technology as a way to compete in the international arena.

The French MATIF, opened in 1986, is now the third largest futures exchange in the world. The fourth largest is the London International Financial Futures Exchange (LIFFE), which is trading, among other non-sterling products, a futures contract on 10-year German Government bonds. A contract on the same German lo-year bonds will be traded by the West German Deutsche Terminborse, which opened in January 1990 as a fully computerized exchange, operating through monitor screens connected to a central computer.[45]

The European Options Exchange in Amsterdam was the first in Europe, and has many international links. MONEP is the French options exchange. The London Traded Options Market (LTOM) trades options on equities and a stock index. There are others in Stockholm, Zurich, and Denmark; options markets are planned in Finland, Norway, and Ireland. Trading in options began in Japan in June, 1989, at the Osaka Stock Exchange, with a contract based on the Nikkei 225 index, but there was already a large volume of off-market (private) options trading.

The U.S. Commodity Futures Trading Commission (CFTC) and the SEC have both approved the CME's plan to trade a futures contract based on Morgan Stanley Capital International's index, representing a basket of 1011 stocks issued in 18 countries. The Coffee, Sugar & Cocoa Exchange is now trading a futures contract based on its International Market Index (50 foreign stocks primarily available only outside the United States), and AMEX is trading an options contract also based on that index.

Whether these index futures or option contracts will succeed remains to be seen. There may not be enough buyers and sellers to assure liquidity. On the other hand, institutional investors may use them to provide "an international component" to hedge portfolios, or for other trading strategies such as asset allocation. Some institutions are prevented by local law or by their charters from investing abroad, but would be able to use these U.S. futures contracts.

Multinational Initial Offerings

Initial stock offerings on a multinational basis also encourage international trading. Many countries do not have enough depth in their capital markets to accommodate large new equity offerings. France, for example, was faced in 1986 with privatizing companies worth about $30 billion, at a time when the total value of listings on the Paris bourse was only about $80 billion.[46] Very large issues of stocks may be underwritten in several countries at the same time. Multinational offerings are often underwritten as different tranches with separate underwriters. They are increasing as corporations seek to diversify their stockholder base, to increase the recognition of their products and

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43 Letter to OTA, Aug. 14, 1989.

44 Jagannath Dubashi, "Futures and Options," *Financial World,* Aug. 23, 1988, pp. 27-29.

45 Information provided to OTA by Metallgesellschaft Corp., New York, NY, Nov. 23, 1989.

46 Group of Thirty, "Symposium Background Paper: The Globalization of Equity Markets," London, Sept. 15-16,1986.

services in a broader market, to fund foreign employee benefits schemes, to facilitate foreign acquisitions, or to defend against take-overs.

International Mutual Funds

These are an alternative to active portfolio trading and let investors hedge against changes in one country's economic conditions without the disadvantages of trading in a foreign country with insufficient information. Some European countries, especially Luxembourg, have tried to get American investment companies to offer U.S. mutual funds in Europe, but legal and tax differences make it difficult for U.S. mutual funds to operate in Europe.[47]

International mutual funds managed by U.S. investment companies for American investors became popular in the early 1980s as the dollar weakened (as foreign currencies appreciated against the dollar, the net asset value of funds denominated in those foreign currencies increased). While returns for many international mutual funds have been superior to most U.S. funds over the last 5 years, some investors in international mutual funds were, however, reported to be disappointed as it became clear that diversification does not necessarily avoid cyclical risk (for example, the recession of 1982 and the crash of 1987 were worldwide).[48] The funds are also highly vulnerable to currency fluctuations. Third World country funds are relatively thinly traded; large infusions of money, from a pension fund, for example, can swing the market violently, and under stress it can be difficult to get out of the market because there are too few potential buyers.

The number of international mutual funds nevertheless continues to grow. The Investment Company Institute says there are 75 international funds (two-thirds of their portfolio from outside the United States) and 80 global funds (some U.S. securities).

RISKS INHERENT IN GLOBALIZATION OF SECURITIES MARKETS

If all of the legal, regulatory, and social barriers to globalization of securities trading are overcome, important systemic risks remain. In times of crisis, the failure of major intermediaries could "impose unacceptable external costs on the entire financial and payments system and ultimately on the entire economy. ' '[49] There is a strong trend toward concentration and consolidation of securities firms, so that the failure of any major intermediary will be likely to have wider consequences than in the past, especially when such intermediaries deal in many markets or in many nations. There was no cascade of failures when Drexel Burnham Lambert went bankrupt, but this is little assurance that it could not happen in the future.

Several kinds of risks are inherent in securities trading and are likely to be affected by an increase in translational securities activities. They include credit risks, position risks, transaction risks, and systemic risks.[50]

Credit risk (also called counterpart risk) is the possibility that one party to a transaction may not deliver, or that a borrower may not repay a loan, or that an intermediary in a transaction (e.g., a payment bank or a clearinghouse) may fail. This risk is much the same in domestic and international trades, but it may be made worse by internationalization because it is harder to make judgments about the reliability of counterparties, the quality of assets, or the degree of protection afforded by disclosure rules. Credit risk is increased as participants trade in several domestic and foreign markets, where regulatory standards and safeguards may vary widely. (See ch. 4.) On the other hand, greater opportunities to divers@ activities may help to reduce total credit risk. Many countries are now acting to improve their clearing, settlement, and payment mechanisms, and in some cases the sharing of information (see ch. 5), and this should moderate the increased credit risk.

[47] Definitions of mutual funds are somewhat different, as are requirements for accounting procedures and for disclosures, and for the times when capital gains must be paid out.

[48] Kenneth Jessell and Jeff Madura, "International Funds: What Factors Affect Their Returna," *AAIA Journal*, May 1988, p. 9.

[49] Organization for Economic Cooperation and Development, "Arrangements for the Regulation and Supervision of Securities Markets in OECD Countries," *Financial Market Trends 41*, November *1988,* p. 36.

[50] See remarks made by Grant L. Reuben, Deputy Chairman of the Bank of Montreal, at a F'inancial Globalization Conference in Chicago, Nov. 2, 1989; the address was entitled "Implications of Globalization for Regulation."

Position risk is that which threatens entire institutions with sudden failure: insufficient assets to meet the demands of depositors, borrowers, investors, or creditors. This could be associated with: 1) a drying up of liquidity (when assets exist but cannot be reclaimed and redirected), 2) significant change in the value of securities being held for trading or other uses, or 3) adverse changes in foreign exchange rates or interest rates. International trading can reduce position risk by offering a greater choice of markets, more opportunities to hedge, and a greater variety of trading strategies. On the other hand, globalization of markets tempts traders to trade in environments where they do not understand all of the dangers and may lack buffers such as back-up lines of credit.

Operational risk is the danger that comes from breakdowns in telecommunications, computer systems, established institutional procedures and structures (including market-making mechanisms), and other "mechanical" aspects of securities trading. Technology provides powerful capabilities for getting things done, and for guarding against the human risks of error, inattention, incompetence, misfeasance, and malfeasance. But technology entails its own risks of breakdown and misuse, which almost certainly increase with internationalization. Technologically sophisticated systems have failed in all countries, including the United States, for example, telephone networks, electric power distribution systems, and air traffic control systems. The ability 'to develop and maintain technological systems is not the same in all countries. Technological backups may be inadequate or untested, or may fail for the same reasons that the primary system fails. In late 1989 and early 1990, for example, a severe drought in the Philippines caused a shortage of hydroelectric power, causing blackouts and making it impossible to depend on electric systems in the financial Sector.[51]

In addition, dependency on technological systems increases the vulnerability when the system fails, because manual skills, interpersonal relationships, and alternative means of operating have often been forgotten or lost. In global trading, some of these alternative and backup procedures have never been developed. At the same time, expectations of speed and efficiency have increased because of technology, and so the impact of breakdown maybe greater.

There is a further risk of unknown dimensions that comes with internationalization--sy stemic risk. That is the extent to which securities market credit, position, or transaction risk could threaten the basic financial industries, the payment system, or the economic performance of nations. On this question there are many opinions but little useful evidence. There are two complementary approaches to reducing risk: 1) private sector efforts to improve and strengthen both technological systems and institutional interfaces, and 2) governmental efforts to improve and harmonize regulatory safeguards. Many countries are now revising their regulatory frameworks. According to the Organization of Economic Cooperative Development:

> There is increasing awareness that securities market activities involve risks that are comparable to the systemic risks inherent in banking, and that accordingly, the basic question arises as to what extent existing regulatory and supervisory arrangements are adequate to deal with current market realities.[52]

These efforts are discussed in chapter 6 of this report.

[51] According to Mary Ann Callahan, Vice President for International Development International Securities Clearing Corp., May 1990.

[52] OECD, op. cit., footnote 49, p. 31.